



Overview of Army, Air Force, Marine, Navy, Special  
Operations Forces, and Selected Unified Commands

# Command, Control, Communications, Computers, and Intelligence “System of Systems”

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- ACOM
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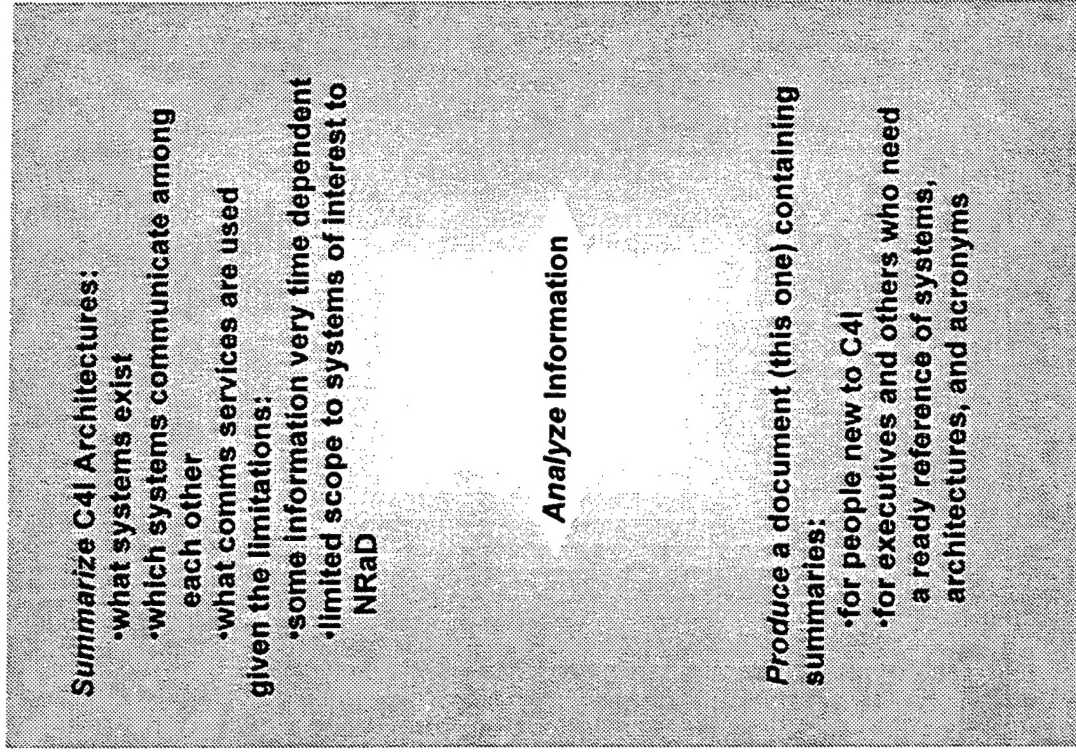
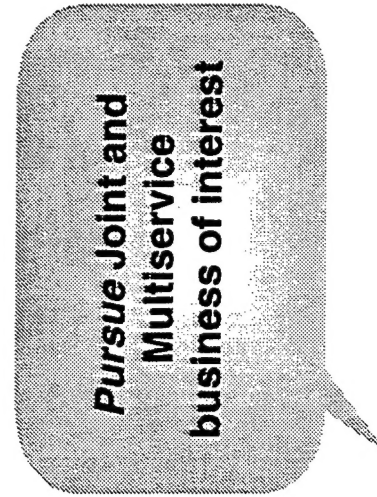
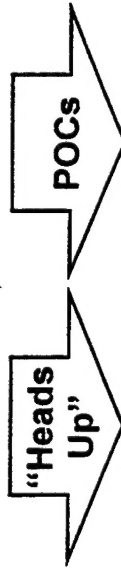
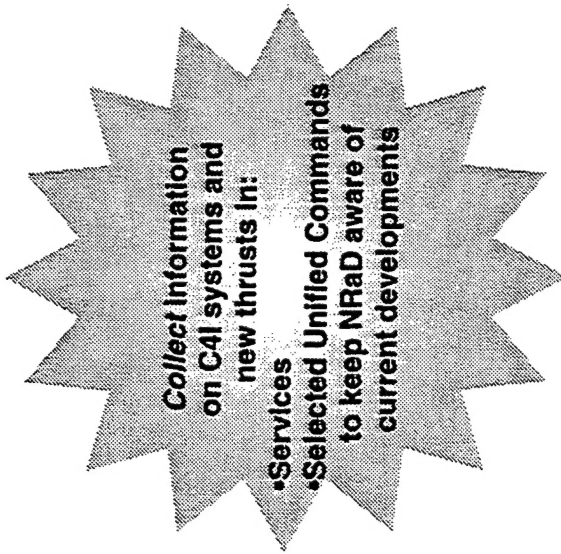
## Services' "System of Systems" C4I Architecture

- Army
- Air Force
- Marines
- Navy
- Special Operations Forces

## Summary and Comparisons

## Acronyms

# THIS DOCUMENT: "WHY" AND "HOW"



## For More Information...

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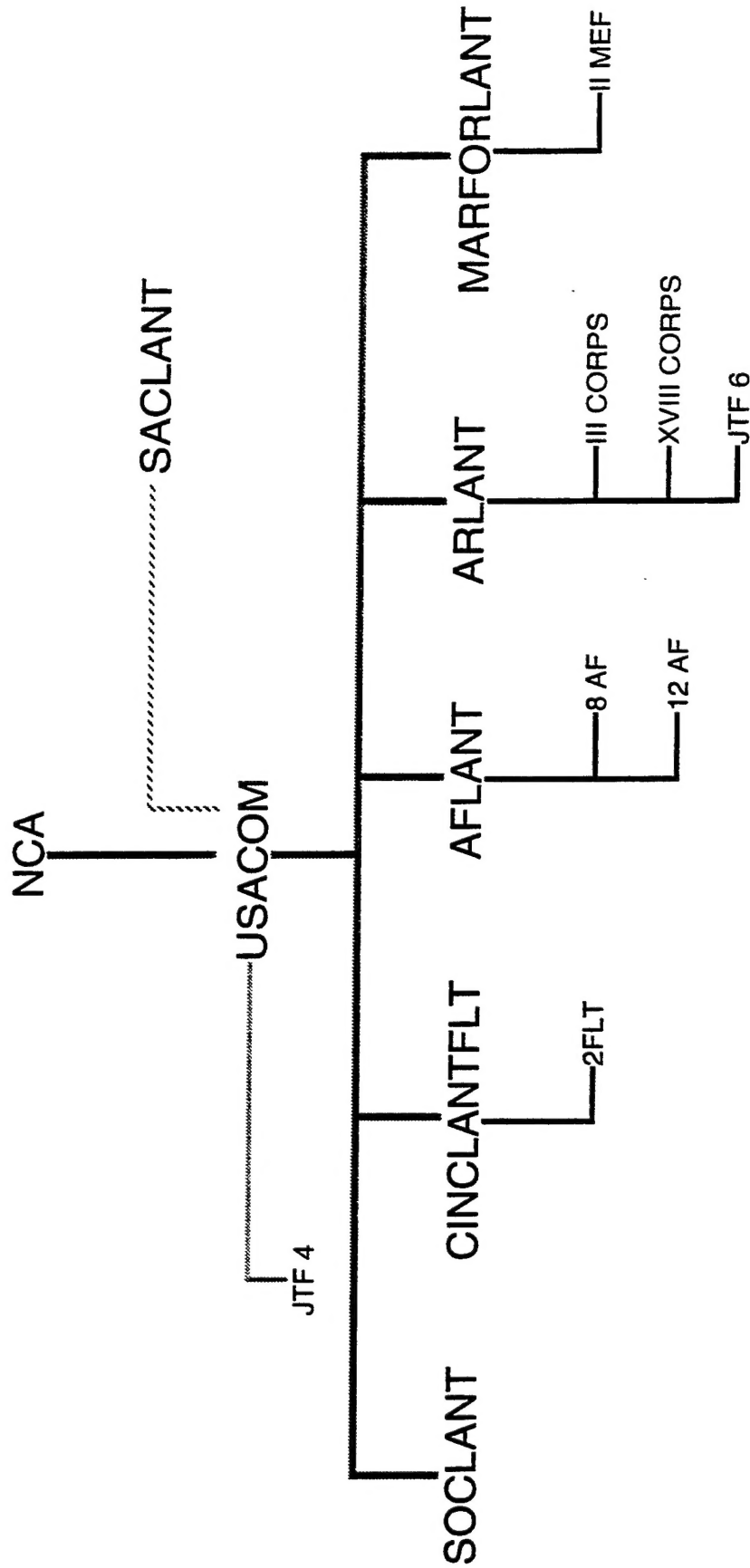
**NOTE:** The contents of this document reflect data gathered during the summer of 1994, and since some C4I systems change rapidly, the authors would appreciate updates from interested parties. Because of the requirements: (1) to keep this document unclassified, and (2) to keep the size of this document small and easily presentable, the reader should be aware that some significant generalizations have been made.



# SELECTED UNIFIED COMMANDS

- **ACOM**
  - Command Relationships
  - C4I: Connectivity Overview
- **EUCOM**
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- **STATUS OF MAJOR C4I EFFORTS**

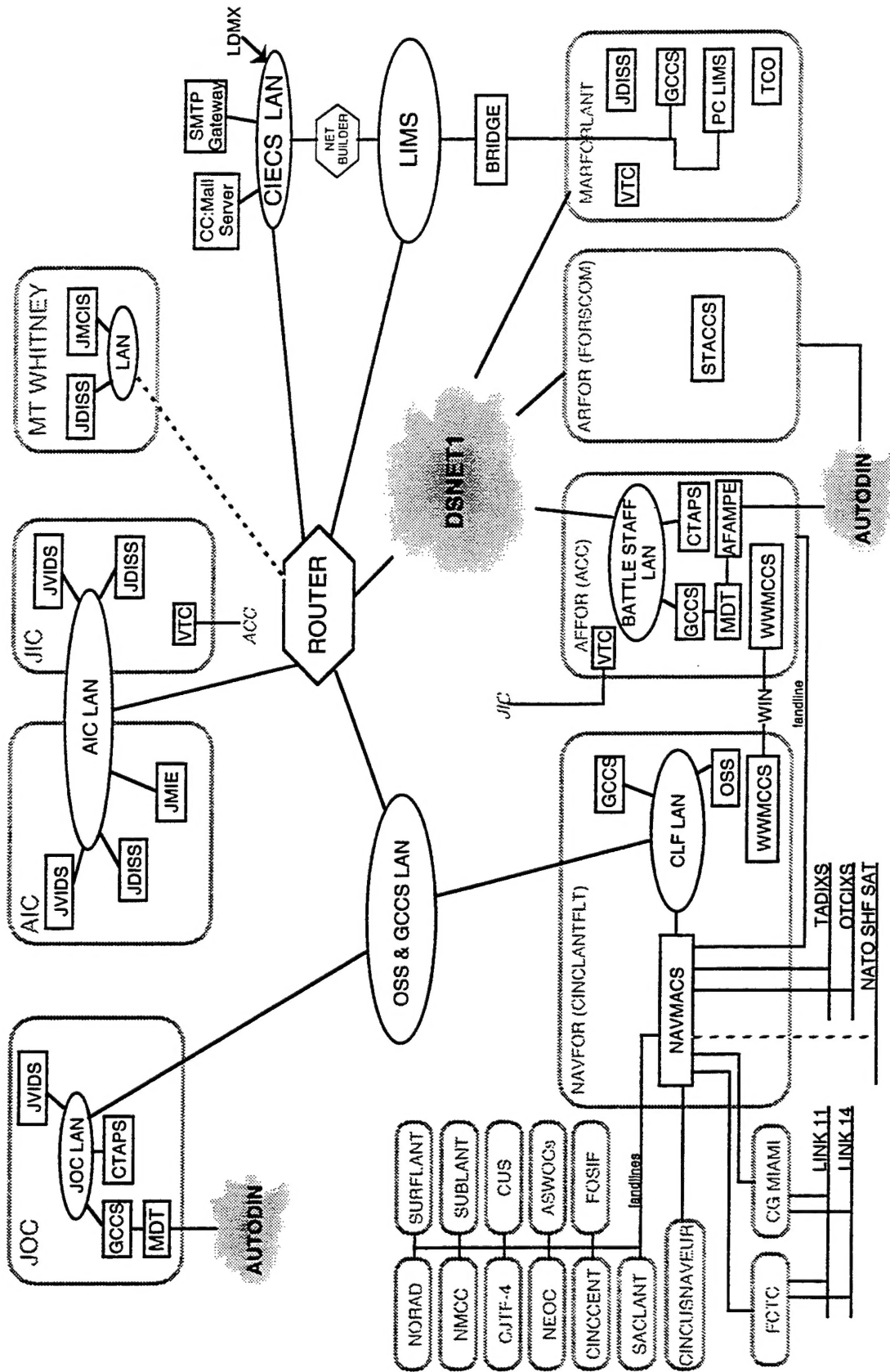
## USACOM RELATIONSHIPS



This diagram displays the major relationships that USACOM has with superiors and subordinates. It should be noted that USACOM command is dominated by CINCLANTFLT (as compared with EUCOM, where the Army and Air Force play much more significant roles in supporting the C4I of the unified command.)

<b>AFLANT</b>	US Air Force, Atlantic. Synonymous with parts of the Air Combat Command (ACC) at Langley AFB.
<b>ARLANT</b>	US Army Atlantic. Synonymous with FORSCOM. Located in Georgia.
<b>CINCLANTFLT</b>	Commander in Chief, Atlantic Fleet
<b>MARFORLANT</b>	Marine Forces, Atlantic. Headquarters has moved to Camp LeJeune, with liason in Norfolk.
<b>NCA</b>	National Command Authority
<b>SACLANT</b>	Supreme Allied Command, Atlantic
<b>SOCLANT</b>	Special Operations Command, Atlantic
<b>USACOM</b>	US Atlantic Command

## USACOM CONNECTIVITY (SECRET NETWORKS)



This is a depiction of the connectivity of major C4I systems at ACOM and its components, as of mid-1994. Included are the systems and networks that operate up to the SECRET level. (Please see following diagram for TS or SCI connectivity.)

ACOM is a test site for GCCS, and as such, some of the new GCCS connectivity changes are provisional, and some are not reflected above.

MARFORLANT just moved to Camp LeJeune; as such, some of the connectivity is provisional.

*Dotted lines indicate digital broadcasts.*

#### AFAMPE

**AIC** Atlantic Intelligence Center  
**AIC LAN** AIC network at the secret level; one of many AIC networks.  
**AMHS** Automated Message Handling System  
**ASWOCs** Anti-submarine Warfare Operations Center  
**AUTODIN** Automatic Digital Network  
**BATTLESTAFF LAN** General purpose network supporting AFFOR staff with e-mail, etc.

#### BRIDGE

Some networks are extended physically with simple bridges, such as to MARFORLANT (Norfolk).  
**CG MIAMI** Coast Guard, Miami, Florida  
**CC:Mail** Electronic mail server software  
**CIECS LAN** CINCLANTFLT Internetwork Electronic Communication System  
**CINCCENT** Commander in Chief, Central Command  
**CINCUSNAVEUR** Commander in Chief, US Navy Europe  
**CJTf-4** Commander, Joint Task Force 4  
**CTAPS** Contingency Theater Automated Planning System; ubiquitous throughout combat Air Force command structure and JTFs.

#### CUS

**DSNET** Defense Secure Network. DSNET 1 is the secret segment, while DSNET 3 is the SCI segment.

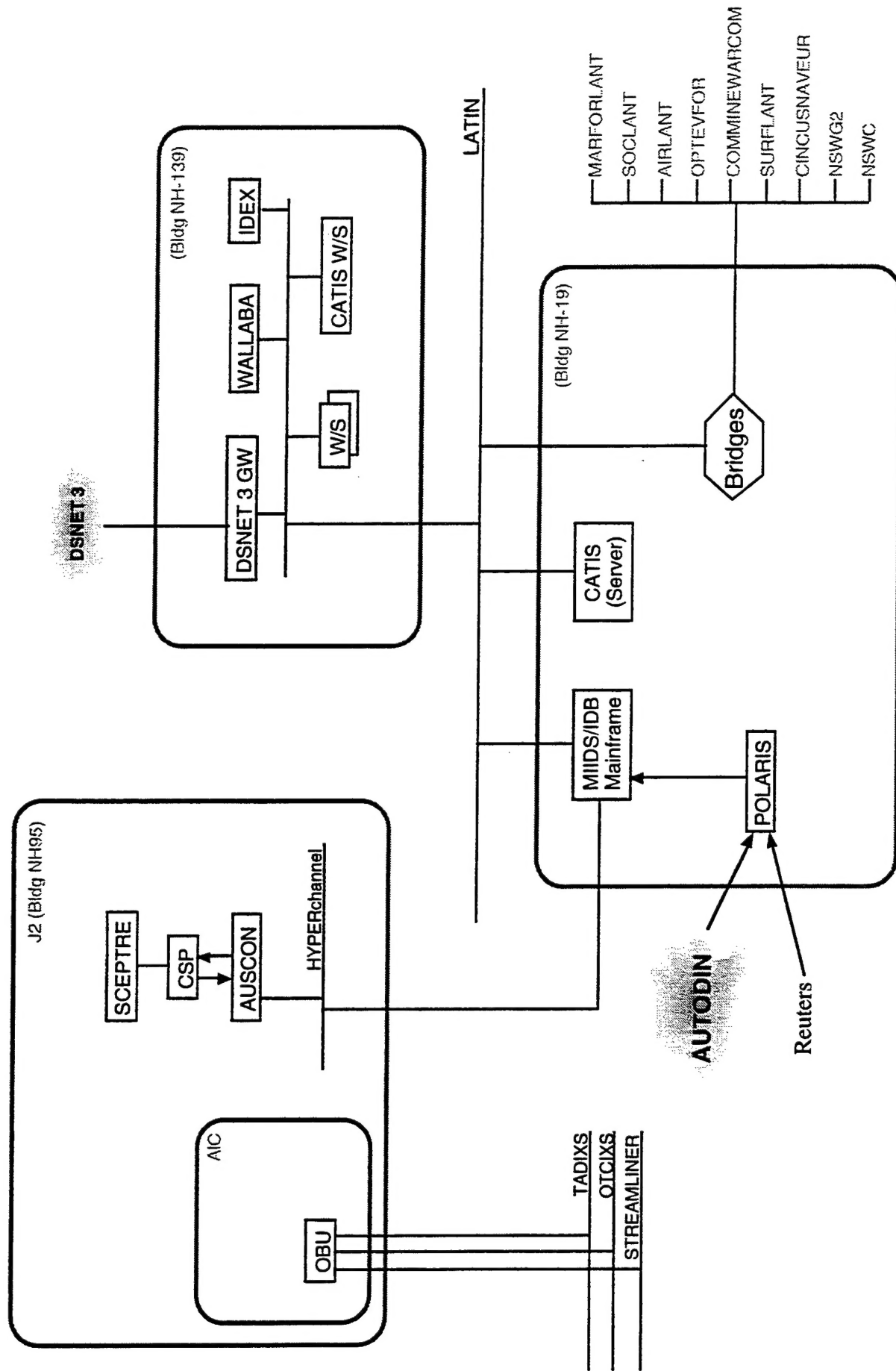
#### FCTC

**FOSIF** Fleet Ocean Surveillance Information Facility  
**GCCS** Global Command and Control System; ACOM is a major test site for GCCS. Will eventually replace WWMCCS.  
**JDISS** Joint Deployable Intelligence Support System

**JIC** Joint Intelligence Center  
**JMIE** Joint Operations Center  
**JOC** The major network in the JOC connecting OSS, JOTS, and other systems.  
**JOC LAN** Joint Visually Integrated Display System  
**JVIDS** Local Digital Message eXchange  
**LDMX** LANTCOM Internetworked Message System  
**LIMS** Tactical data link, mostly for targets and training.  
**LINK 11** Tactical data link, primarily for air traffic.  
**LINK 14** Maneuver Control System  
**MCS** Message Distribution Terminal  
**MDT** Second Fleet command ship  
**MT WHITNEY** Navy Modular Automated Communications System  
**NAVMACS** A router between networks  
**NET BUILDER** National Military Command Center  
**NMCC** Location of CINCLANTFLT and 2nd Fleet  
**Norfolk** Operations Support System; absorbed by JMCIS  
**OSS** Officer in Tactical Command Information Exchange Subsystem  
**OTCIXS** Personal Computer on LIMS  
**PC LIMS** There are several routers connecting the networking components at ACOM.  
**Routers** Supreme Allied Command, Atlantic  
**SACLANT** Simple Mail Transfer Protocol Gateway; computer that allows for receipt of e-mail from outside systems.  
**SMTP Gateway** Standard Theater Army Command and Control System  
**STACCS** Submarine Forces, Atlantic  
**SUBLANT** Surface Fleet, Atlantic  
**SURFLANT** Tactical Data Information Exchange Subsystem  
**TADIXS** Tactical Combat Operations System, USMC primary near real time tactical picture support system.  
**TCO** Video Teleconferencing; there exists a video conferencing capability between ACC and CINUSACOM; the capability is being expanded to the other components.  
**VTC** WWMCCS Interconnection Network  
**WIN** World Wide Military Command and Control System  
**WWMCCS**



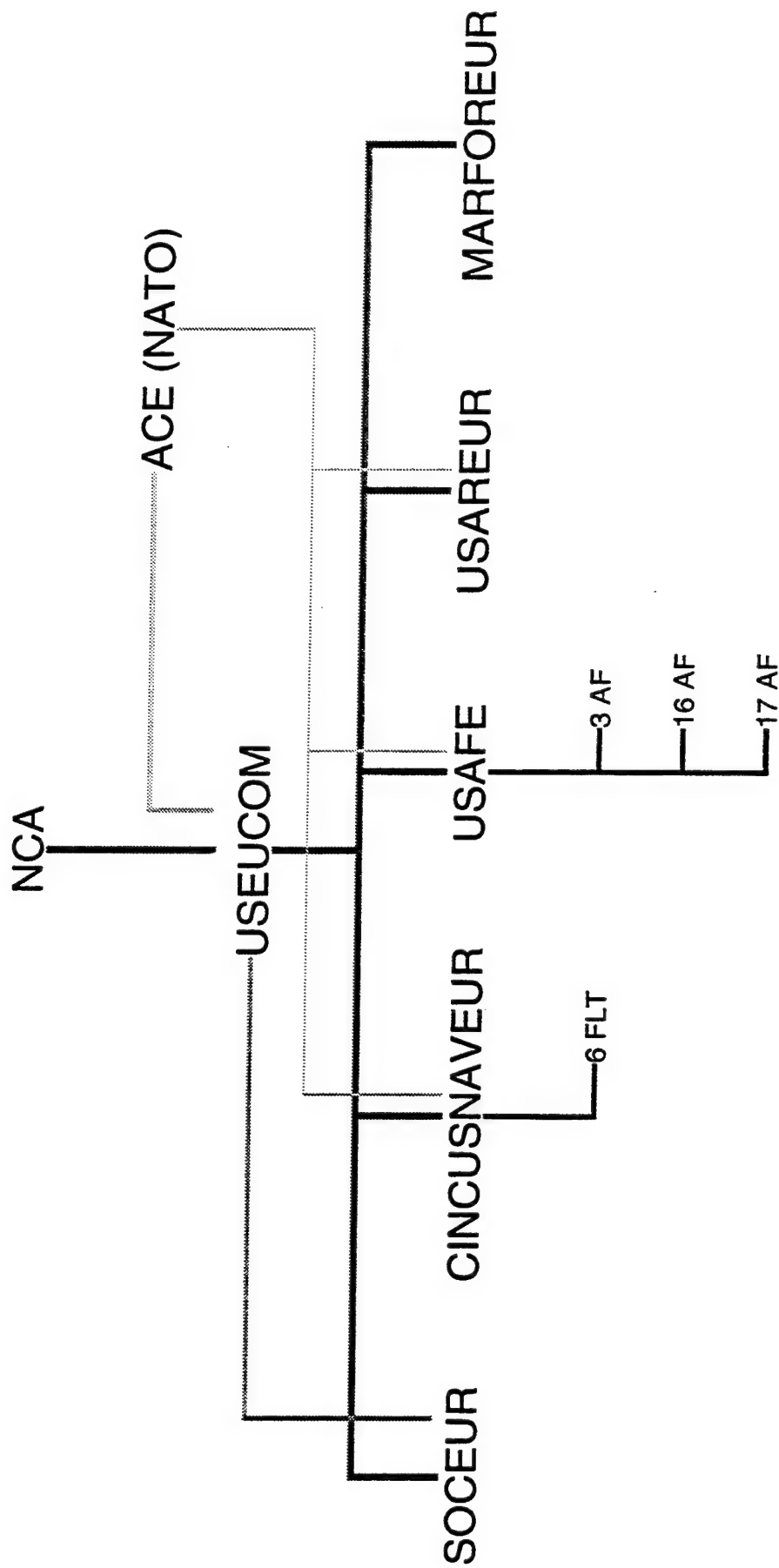
# USACOM ADDITIONAL (AIC/TS) CONNECTIVITY



This is a depiction of additional connectivity at ACOM, especially at the Atlantic Intelligence Center, at the TS level. This drawing obviously cannot be complete, but does give some indications of the scope of the connections and some key systems that are used.

<b>AUSCON</b>	Automatic Digital Network
<b>AUTODIN</b>	Connections to remote sites with LATIN are through bridges
<b>BRIDGES</b>	Computer Aided Tactical Information System
<b>CATIS</b>	Commander, Mine Warfare Command
<b>COMMINEWARCOM</b>	
<b>CSP</b>	
<b>DSNET</b>	Defense Secure Network. DSNET 1 is the secret segment, while DSNET 3 is the SCI segment.
<b>DSNET3 GW</b>	Allows for networking into DSNET 3
<b>HYPERchannel</b>	
<b>IDEX</b>	Imagery Digital Exploitation
<b>J2</b>	ACOM Intelligence Directorate
<b>LATIN</b>	LANTCOM Theater Intelligence Network
<b>MIDS/IDB Mainframe</b>	Military Intelligence Integrated Data System/Integrated Database mainframe computer
<b>NSWC</b>	Naval Special Warfare Command
<b>NSWG2</b>	Naval Special Warfare Group, 2
<b>OBU</b>	OSIS Baseline Upgrade
<b>OPTEVFOR</b>	Operations Test and Evaluation Force; Navy command that tests and evaluates readiness.
<b>OTCIXS</b>	Officer in Tactical Command Information Exchange
<b>PC</b>	Personal Computer
<b>POLARIS</b>	
<b>Reuters</b>	International news service
<b>SCEPTRE</b>	
<b>TADIXS</b>	Tactical Data Information Exchange Subsystem
<b>W/S</b>	WorkStation
<b>WALLABA</b>	

## USEUCOM RELATIONSHIPS

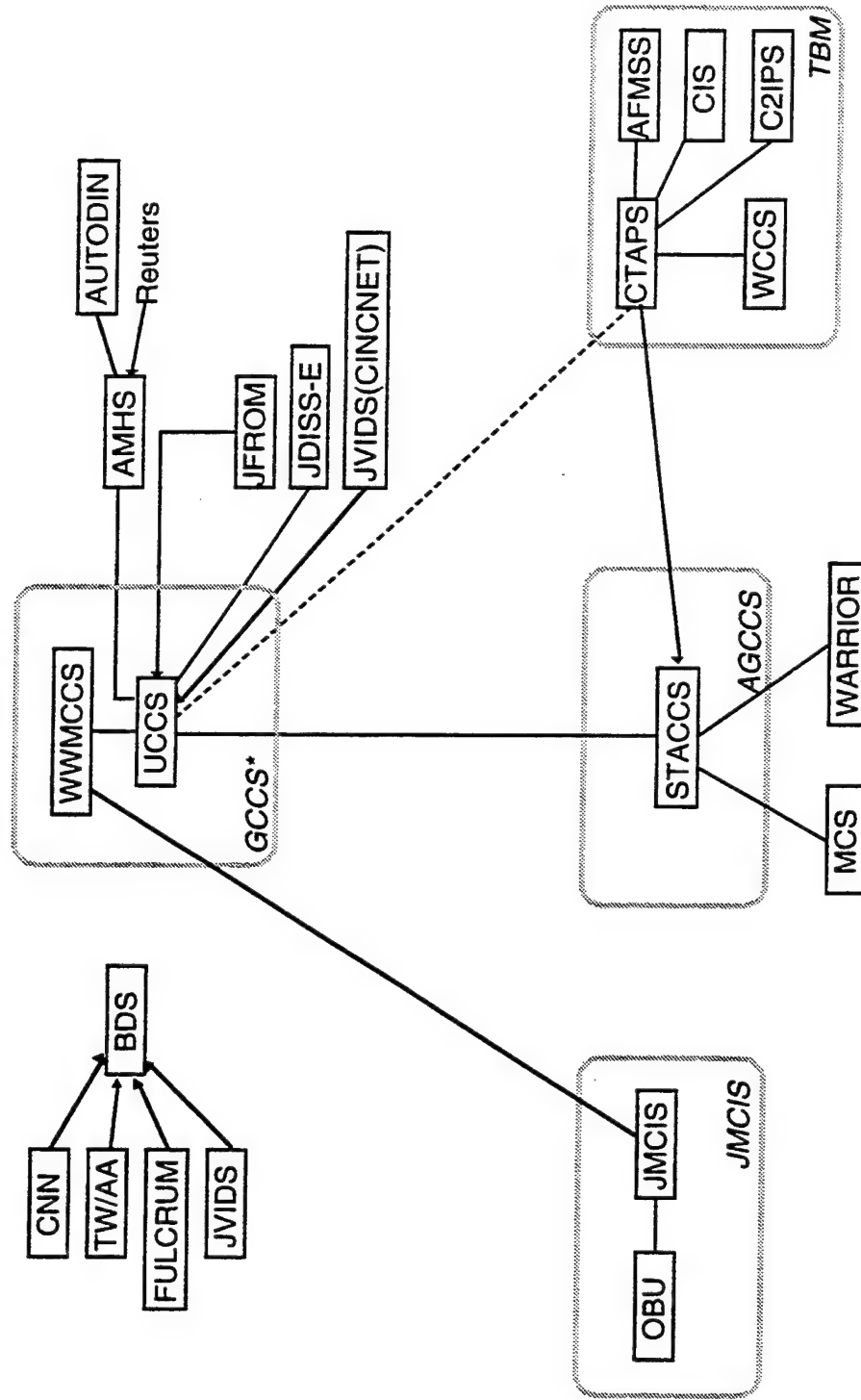




This diagram displays the major relationships that USEUCOM has with superiors and subordinates. It should be noted that USEUCOM command structures, and the JTFs created under USEUCOM, have complex command relationships.

<b>ACE</b>	Allied Command Europe. The existence of NATO has, of course, direct implications on the Command and Control requirements of USEUCOM.
<b>CINCUSNAVEUR</b>	Commander in Chief, US Navy Europe. The 6th Fleet is stationed in the Mediterranean.
<b>MARFOREUR</b>	Marine Forces Europe. A new name for FMFEUR; very limited resources in Europe.
<b>NCA</b>	National Command Authority
<b>SOCEUR</b>	Special Operations Command Europe. SOCEUR is unique in that it is a component and a staff element. SOCEUR is larger than SOCPAC or SOCLANT.
<b>USAFE</b>	US Air Forces Europe. Three numbered Air Forces are stationed in Europe.
<b>USAREUR</b>	US Army Europe. The Army has extensive forces in Europe, and thus significant C2, which directly impacts the C2 of USECOM.
<b>USEUCOM</b>	US European Command

## USEUCOM MAJOR C2I SYSTEMS RELATIONSHIPS (NEAR TERM)



This diagram shows the major C4I systems in use at USEUCOM, and the relationships that exist among them either today or in the near future. Dashed lines indicate future items.

EUCOM is significantly an Army and Air Force based unified command, and as such the Army and Air Force C2 systems play significant role.

**AFMSS** Air Force Mission Support System; used at squadron level

**AGCCS** Army Global Command and Control System

**AMHS** Automated Message Handling System

**AUTODIN** Automatic Digital Network

**BDS** Briefing Display System

**C2IPS** Command and Control Information Processing System

**CIS** Combat Intelligence System; used at AOC down to squadron

**CNN** Cable News Network

**CTAPS** Contingency Theater Automated Planning System; ubiquitous throughout combat Air Force command structure and JTFs.

**FULCRUM** Not an acronym - a mapping system.

**GCCS** Global Command and Control System

**JDISS-E** Joint Deployable Intelligence Support System - Europe.

**JFROM** Joint Force Reception and Onward Movement

**JMCIS** Joint Maritime Command Information System

**JVIDS** Joint Visually Integrated Display System

**MCS** Maneuver Control System

**OBU** OSIS Baseline Upgrade

**REUTERS** International news service

## STACCS

### TBM

Standard Theater Army Command and Control System  
Theater Battle Management; Air Force's unifying C4I concept.

### TW/AA

video displays

### UCCS

European Command and Control System. This is the major planning and analysis support system for the EUCOM staffs.

## WARRIOR

An Army Intelligence system (not an acronym)

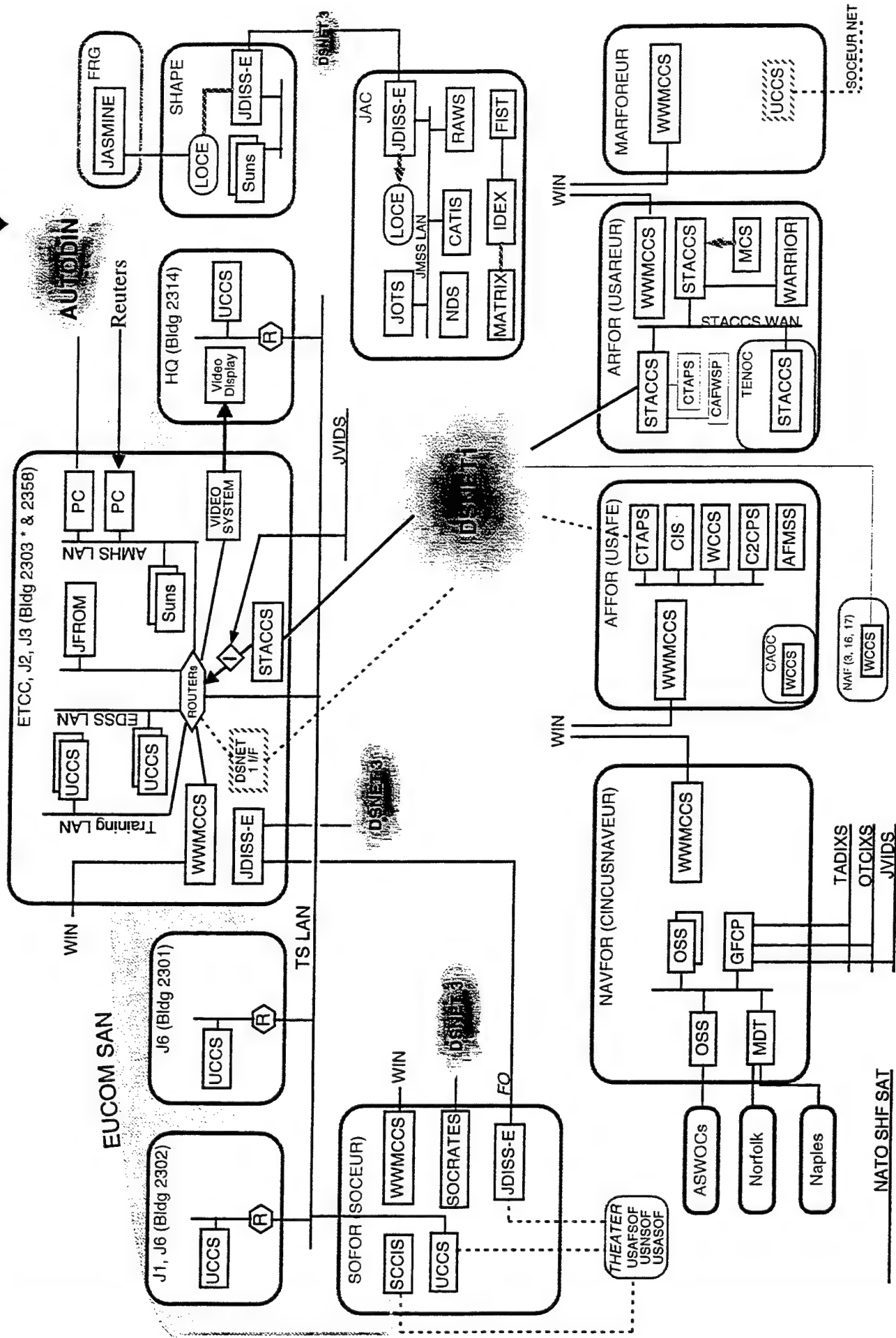
### WCCS

Wing Command and Control System

## WWMCCS

World Wide Military Command and Control System

# USEUCOM C4I CONNECTIVITY



This is a depiction of the connectivity of major C4I systems at EUCOM and it's components, as of middle of 1994. Please note that EUCOM is in the process of moving it's command center, and the building 2303 and 2358 depiction is an extrapolation of current or previous architectures. Also, the changes due to GCCS are not reflected above.

*Dashed lines indicate new connectivity in the near term. Dark lines striped white indicate interfaces via disk exchange.*

**AFMSS** Air Force Mission Support System; used at squadron level.  
**AMHS** Automated Message Handling System  
**ASWOCs** Anti-submarine Warfare Operations Center  
**AUTODIN** Automatic Digital Network  
**C2IPS** Command and Control Information Processing System; used from AOC down to wing level.  
**CAFWSP** Combat Air Forces Weather Software Package; a CTAPS integrated application to provide both current and forecast weather in support of target nomination, ATO planning, and execution.  
**CAOC** Combined Air Operations Center  
**CATIS** Computer Aided Tactical Information System  
**CIS** Combat Intelligence System; used at AOC down to squadron  
**CTAPS** Contingency Theater Automated Planning System; ubiquitous throughout combat air force command structure and JTFs.  
**DSNET** Defense Secure Network. DSNET 1 is the secret segment, while DSNET 3 is the SCI segment.  
**EDSS** EUCOM Decision Support System; a collection of C2 systems based around UCCS that is used by EUCOM commanders.  
**ETCC** European Theater Command Center; the command center complex for USEUCOM. Currently being remodeled and will soon be operational.  
**EUCOM SAN** European Command Secret Area Network  
**FIST** Fleet Imagery Support Terminal  
**FO** Fiber Optic  
**FRG** Federal Republic of Germany  
**HQ** Headquarters  
**I** Interface; signifies one-way interfacing  
**IDEX** Imagery Digital Exploitation  
**J1, J2, J3, J6** Staff components of the command  
**JASMIN** Joint Analysis System for Military Intelligence  
**JDISS-E** Joint Deployable Intelligence Support System - Europe.

EUCOM unique version of JDISS. JDISS-E also known as EISS.  
**JFROM** Joint Force Reception and Onward Movement  
**JOTS** Joint Operational Tactical System; absorbed by JMCIS  
**JVIDS** Joint Visually Integrated Display System  
**LOCE** Linked Operations/Intelligence Centers Europe  
**MATRIX** Multi-source Automated Target Recognition with Interactive Exploitation

**MCS** Maneuver Control System  
**MDT** Message Distribution Terminal  
**NAF** Numbered Air Forces  
**Naples** Location of 6th Fleet  
**NDS** National Photographic Interpretation Center Data System  
**Norfolk** Location of CINCLANTFLT and 2nd Fleet  
**OSS** Operations Support System; absorbed by JMCIS  
**OTCIXS** Officer in Tactical Command Information Exchange Subsystem

**PC** Personal Computer  
**RAWS** Relocatable Army Processors for Intelligence Data - Europe  
**Analyst Workstation**

**Reuters** International news service  
**Routers** There are several routers connecting the networking components at EUCOM. The diagram symbolically shows one.

**SCCIS** SOCEUR Command and Control Information System  
**SOCEUR LAN** SOCEUR Local Area Network  
**SOCRATES** Special Operations Command Research, Analysis and Threat Evaluation System

**STACCS** Standard Theater Army Command and Control System  
**Suns** Workstations from Sun Microsystems, Inc.

**TADIXS** Tactical Data Information Exchange Subsystem  
**TENOC** Theater Network Operations Center

**TS LAN** Top Secret Network on which UCCS runs.  
**UCCS** European Command and Control System

**USAFSOF, USNSOF, USASOF** Special Operation Forces of the services.

**Video System** Capability to transmit to the commander video displays of some C4I systems. Output on **Video Display** in HQ building.

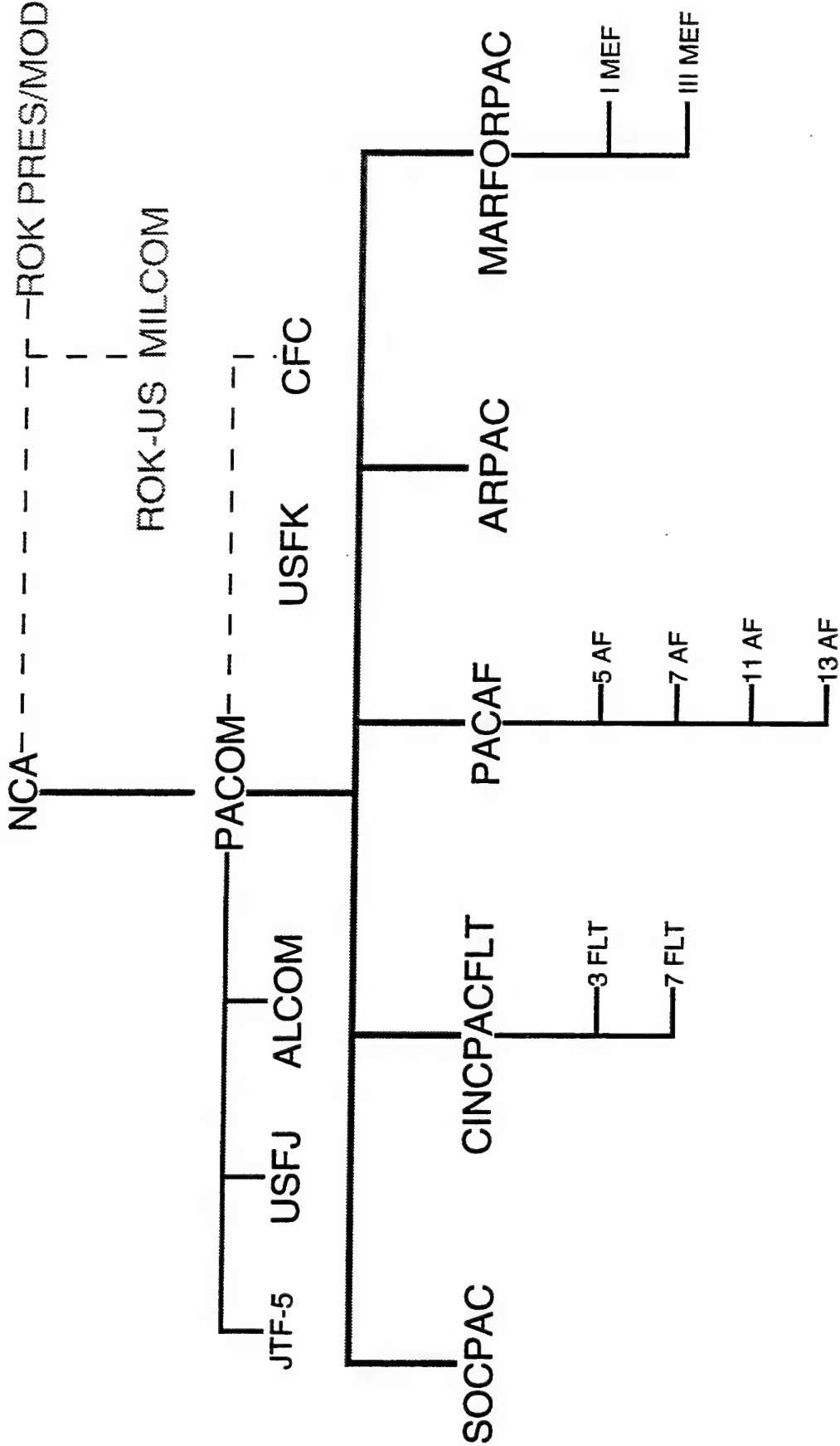
**WARRIOR** An Army Intelligence system (not an acronym)

**WCCS** Wing Command and Control System

**WIN** WWMCCS Interconnection Network

**WWMCCS** World Wide Military Command and Control System

# PACOM RELATIONSHIPS



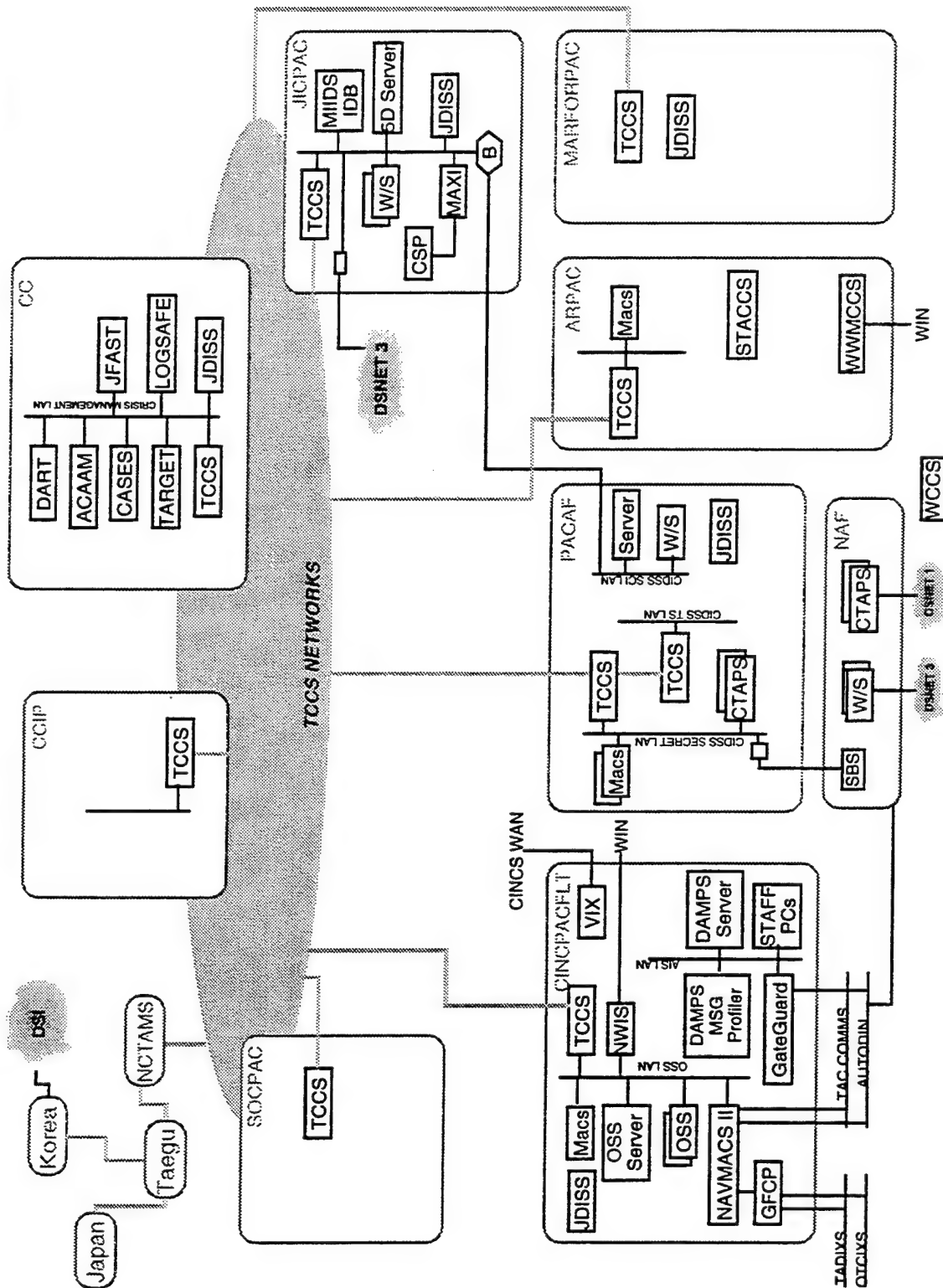
This diagram displays the major relationships that PACOM has with superiors and subordinates.

As can be seen from the diagram, the command of forces in Korea can be complex. This affects also the C4I systems, in particular, the control over the releasability of sensitive data, often dictating multiple networks, etc.

<b>ALCOM</b>	Alaskan Command
<b>ARPAC</b>	US Army, Pacific
<b>CFC</b>	Combined Forces Command
<b>CINCPACFLT</b>	Commander in Chief, Pacific Fleet
<b>JTF-5</b> interdiction, etc.)	A standing joint task force (for
<b>MARFORPAC</b>	Marine Forces, Pacific
<b>NCA</b>	National Command Authority
<b>PACAF</b>	US Air Forces, Pacific
<b>PACOM</b>	Pacific Command
<b>ROK PRES/MOD</b>	Republic of Korea President or Minister of Defense; analogous to our NCA.

<b>ROK-US MILCOM</b>	Republic of Korea - United States Military Committee.
<b>SOC PAC</b>	Special Operations Command, Pacific
<b>USFJ</b>	US Forces, Japan
<b>USFK</b>	US Forces, Korea

## PACOM NEAR TERM C4I CONNECTIVITY





This diagram shows several of the key C4I systems in use at PACOM and its subordinates. Both ARPAC and SOCPAC have limited C4I (except WWMCCS for the Army) compared to EUCOM.

The grey lines indicate TCCS networking or network extensions. TCCS is the unifying C4I concept at PACOM.

<b>5D Server</b>	Demand Driven Direct Digital Dissemination Imagery server.
<b>AIS LAN</b>	Administrative data system network at PACFLT
<b>AMHS</b>	Automated Message Handling System
<b>AUTODIN</b>	Automatic Digital Network
<b>CASES</b>	Capabilities Assessment, Simulation, and Evaluation System
<b>CIDSS</b>	COMPACAF Integrated Decision Support System. The umbrella engineering effort coordinating the support systems at PACAF
<b>CINCS WAN</b>	Connects CINCPACFLT, CINCLANTFLT, and CNO with video and admin support.
<b>CSP</b>	Communications Support Processor
<b>CTAPS</b>	Contingency Theater Automated Planning System; ubiquitous throughout combat air force command structure and JTFs.
<b>DAMPS</b>	Desktop Automated Message Processing System.
<b>PACFLT</b>	is modernizing its networking and message handling, and as of the date of this document the diagram shown above is one possible configuration.
<b>DART</b>	Dynamic Analysis and Replanning Tool
<b>DSNET</b>	Defense Secure Network. DSNET 1 is the secret segment, while DSNET 3 is the SCI segment.
<b>FIST</b>	Fleet Imagery Support Terminal
<b>GateGuard</b>	Message processor
<b>GFCP</b>	General-purpose Front-end Communications Processor
<b>Japan</b>	TCCS networking can be extended to Japan for USFJ
<b>JDISS</b>	Joint Deployable Intelligence Support System
<b>JFAST</b>	Joint Flow and Analysis System for Transportation
<b>JOTS</b>	Joint Operational Tactical System; absorbed by JMCIS
<b>JVIDS</b>	Joint Visually Integrated Display System
<b>Korea</b>	Several networking efforts are underway to connect PACOM C4I with systems in Korea.
<b>LOGSAFE</b>	Logistics Sustainability Analysis and Feasibility Estimator
<b>Macs</b>	At PACFLT, and especially at PACAF, briefing systems are constructed using Macintoshes as the data processing support.

<b>MAXI</b>	Modular Architecture for the eXchange of Intelligence
<b>MDT</b>	Message Distribution Terminal
<b>MIIDS IDB</b>	Military Intelligence Integrated Data System/ Integrated Database mainframe computer
<b>NAF</b>	Numbered Air Forces
<b>NAVMACS II</b>	Navy Modular Automated Communications System. II
<b>NCTAMS</b>	Naval Computer and Telecommunications Area Master Station
<b>NWIS</b>	Navy interface to WWMCCS, part of OSS, absorbed by JMCIS
<b>OSS</b>	Operations Support System; absorbed by JMCIS
<b>OTCIXS</b>	Officer in Tactical Command Information Exchange Subsystem
<b>PC</b>	Personal Computer
<b>STACCS</b>	Standard Theater Army Command and Control System
<b>TAC COMMS</b>	Tactical Communications
<b>TADIXS</b>	Tactical Data Information Exchange Subsystem
<b>Taegu</b>	Main entry point of TCCS network into Korea
<b>TARGET</b>	Theater-level Analysis, Replanning, and Global Execution Toolbox
<b>TCCS</b>	Theater Command and Control System. The major C2 system supporting PACOM and staff, and in use at all the components. Network extended off of Hawaii.
<b>VIX</b>	Video Information Exchange System
<b>WCCS</b>	Wing Command and Control System
<b>WIN</b>	WWMCCS Interconnection Network
<b>WWMCCS</b>	World Wide Military Command and Control System

# STATUS OF MAJOR C4I EFFORTS

- **ACOM**

**USANET:** Engineering effort at integrating and managing vast array of communications networks and associated systems.

**GCCS:** Major test site for the Global Command and Control System.

- **EUCOM**

**European Theater Command Center (ETCC)** completed.

**GCCS - UCCS** relationship being defined.

Continuing need to support many diverse JTFs.

- **PACOM**

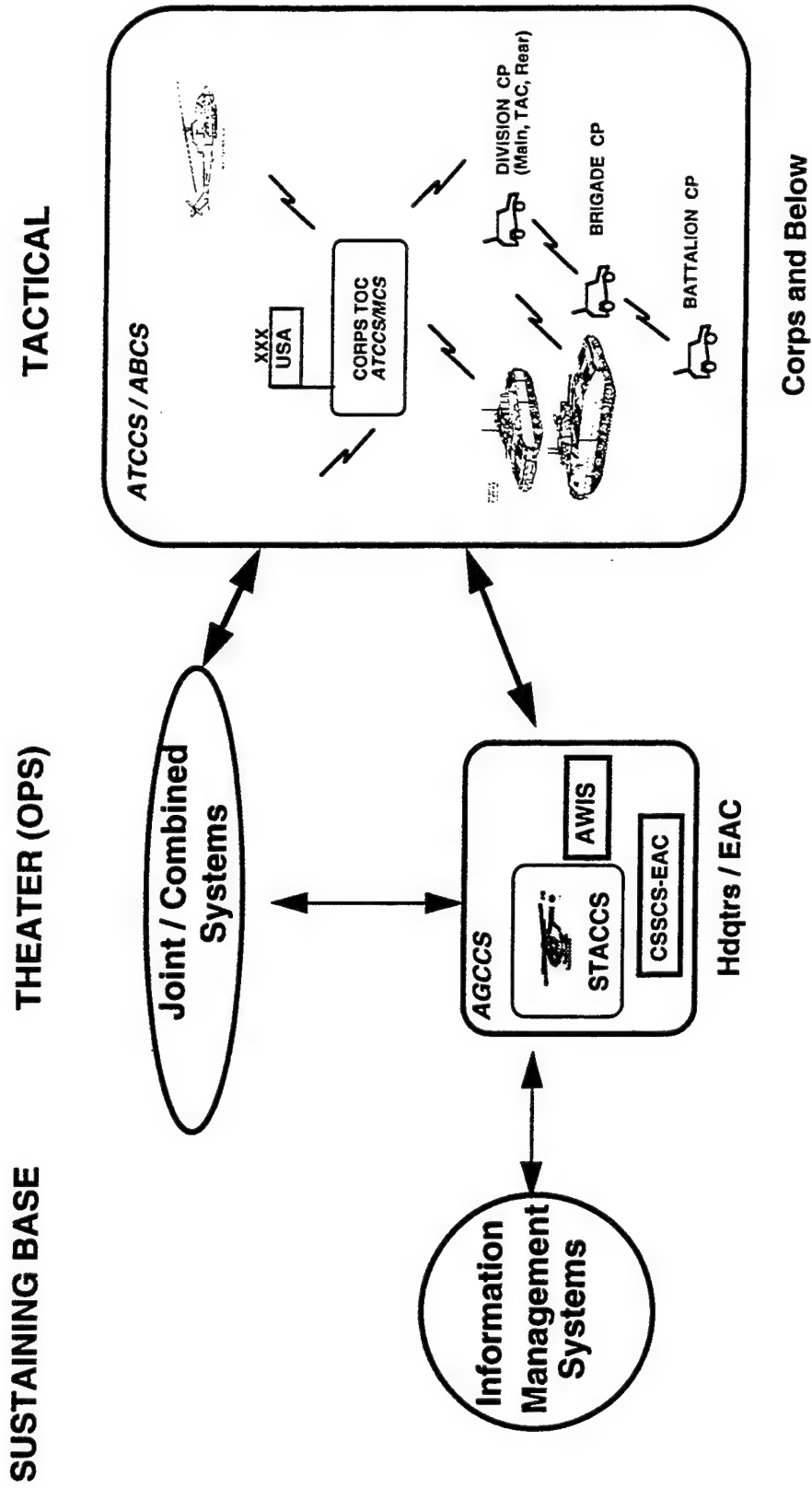
**TCCS:** maturing concept and system of systems.

**GCCS - TCCS** relationship being defined.

# US ARMY

- HIGH LEVEL C4I STRUCTURE
- C4I SYSTEMS FUNCTIONAL OVERVIEW
- C4I PHYSICAL CONNECTIVITY
- STATUS of C4I PROGRAMS

# ARMY HIGH LEVEL C4I STRUCTURE



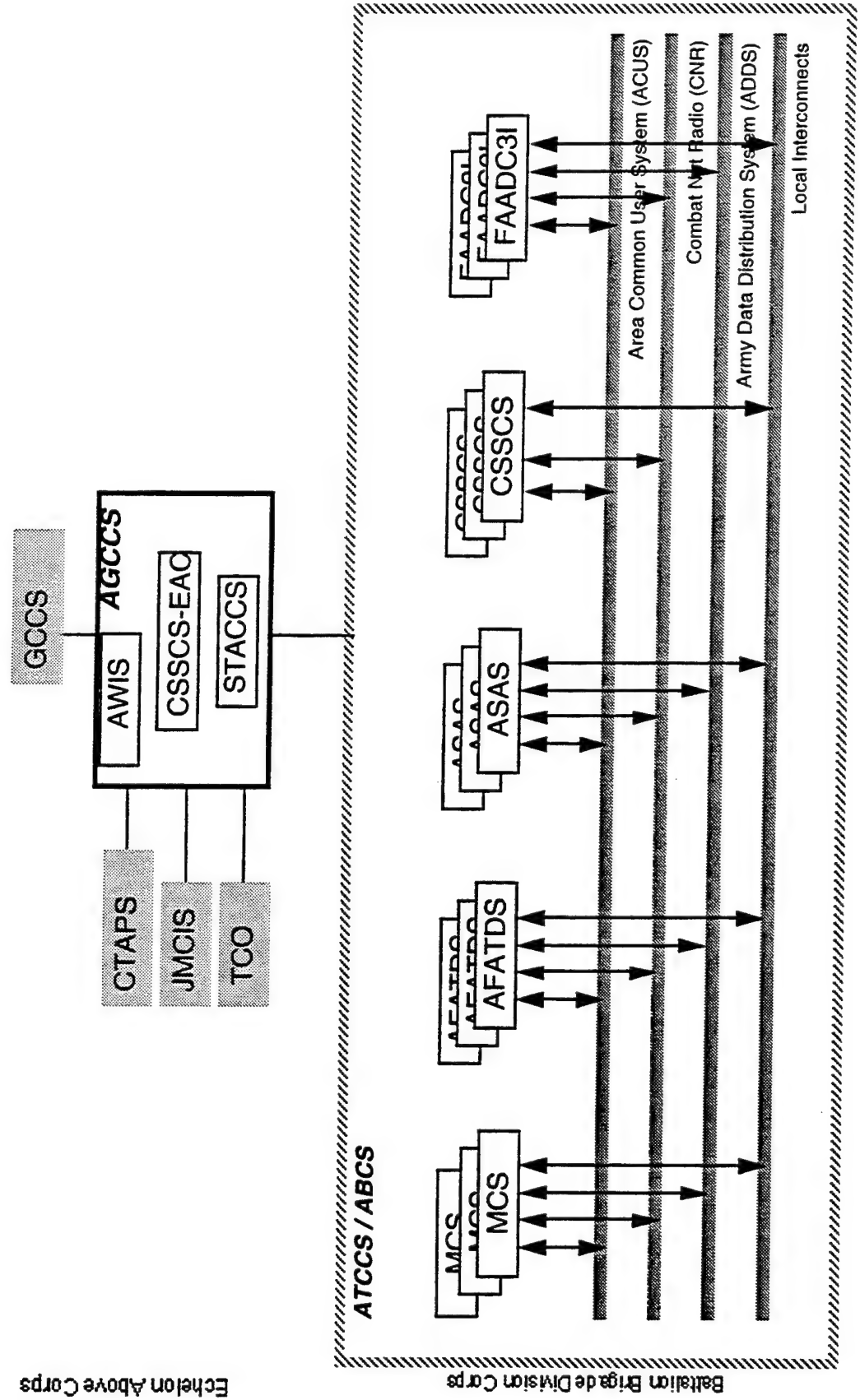
## ARMY HIGH LEVEL C4I STRUCTURE

This diagram is adapted from concepts in the Army C2 Master Plan, showing the basic relationships between the two major components of the Army C4I structure. The Army clearly divides its operations between Theater and Corps (and below.)

<b>ABCS</b>	Army Battle Command System
<b>AGCCS</b>	Army Global Command and Control System. Merges the strategic and theater components of the Army as an initial step in the migration to the Army Battle Command System.
<b>ATCCS</b>	Army Tactical Command and Control System; it is part of the Army Command and Control System (ACCS) concerned primarily with employment. It will soon be called the Army Battle Command System (ABCS).
<b>AWIS</b>	Army Worldwide Information System. The Army element of WWMCCS. It will be overtaken by the Army GCCS ( a migration of AWIS, STACCS, and CSSCS-EAC into one system)
<b>Corps</b>	The highest operational unit at the tactical level in the Combat Zone (CZ).
<b>CP</b>	Command Post
<b>CSSCS-EAC</b>	Combat Service Support Control System for Echelons Above Corps
<b>EAC</b>	Echelons Above Corps

<b>Info. Mgmt. Systems</b>	Information Management Systems. Resources and activities that are concerned with coordinating, planning, organizing, analyzing, integrating, evaluating, and controlling information. Maneuver Control System is one of the major components of the ATCCS.
<b>MCS</b>	Standard Theater Army Command Control System. The theater level data processing support system initially developed by the Army European Command.
<b>STACCS</b>	Resource acquisition and management, and the development and maintenance of readiness for combat.
<b>Sustainment</b>	Tactical Command Post
<b>TAC</b>	Tactical Operations Center
<b>TOC</b>	World Wide Military Command and Control System is the current joint command and control system to be replaced by the Global Command and Control System (GCCS).
<b>WWMCCS</b>	

# ARMY C4I SYSTEMS FUNCTIONAL OVERVIEW (NEAR TERM)



## ARMY C4I SYSTEMS FUNCTIONAL OVERVIEW (Near Term)

This diagram depicts the relationships among the key Army C4I systems circa 1994.

### ABCS ACUS

Army Battle Command System to which ATCCS is transitioning. Area Common User System, is a collection of Mobile Subscriber Equipment (MSE) that provides voice and data communications for Army Corps and their divisions, capable of handling 5 division corps in an area of 37,000 square kilometers.

### ADDS

Army Data Distribution System is a family of secure, jam-resistant, near real-time, data communications, and position location reporting, navigation, and identification systems. It provides a near real-time data comm capability to echelon above corps as well as below. It includes EPLRS and JTIDS.

### AFATDS

Advanced Field Artillery Tactical Data System. Provides automated fire support of close, rear and deep operations. It is composed of a common suite of hardware and software employed in varying configurations at different operational facilities interconnected by tactical communications. Provides support at any level of command. All Source Analysis System. Automated tactical intelligence system for Corps, Division, and Echelon Above Corps. Provides all source intelligence fusion network used to generate understanding of enemy deployments, capabilities, vulnerabilities and potential courses of action. Procurement divided into three blocks. Block II will include conversion to Army Common Hardware/Software, and will reach milestone III in 1999.

### ASAS

### ATCCS

Army Tactical Command and Control System. The different elements of ATCCS are shown with multiple boxes to indicate the system(s) exist at more than one level of command (e.g., Division and Corps.)

### AWIS

Army Worldwide Information System. The Army element of WWMCCS. It will be overtaken by AGCCS.

### CNR

Combat Net Radio, is a family of radios that provide for C2 from squad up through corps; mainly voice, there is limited data capability, and will completely replace current single channel radios by 1995. CNR consists of five types of units, including SINGGARS and IHFR.

### CP LAN

Command Post Local Area Network

### CSSCS

Combat Service Support Control System. Provides automated support to control of Army CSS, allowing state of readiness to be assessed and courses of action to be war-gamed based upon CSS status.

### CSSCS-EAC CTAPS

CSSCS for Echelons Above Corps  
Contingency Theater Air Control System (TACS)  
Automated Planning System for the Air Force.

### Echelon Above Corps EPLRS

The command level of an Army.  
Enhanced Position Location Reporting System. Army's version of the Marine's PLRS system.

### FAADC3I

Forward Area Air Defense Command, Control, Communications, and Intelligence. Integrates, processes and distributes aerial target information gathered from ground based and other sensors, identifications Friend or Foe, Positive Hostile Identification, and Non-cooperative Target Recognition devices. It will interoperate with joint and allied High-to-Medium Altitude Air Defense C2 systems.

### IHFR JMCIS

Improved High Frequency Radio  
Joint Maritime Command Information System developed by the Navy.

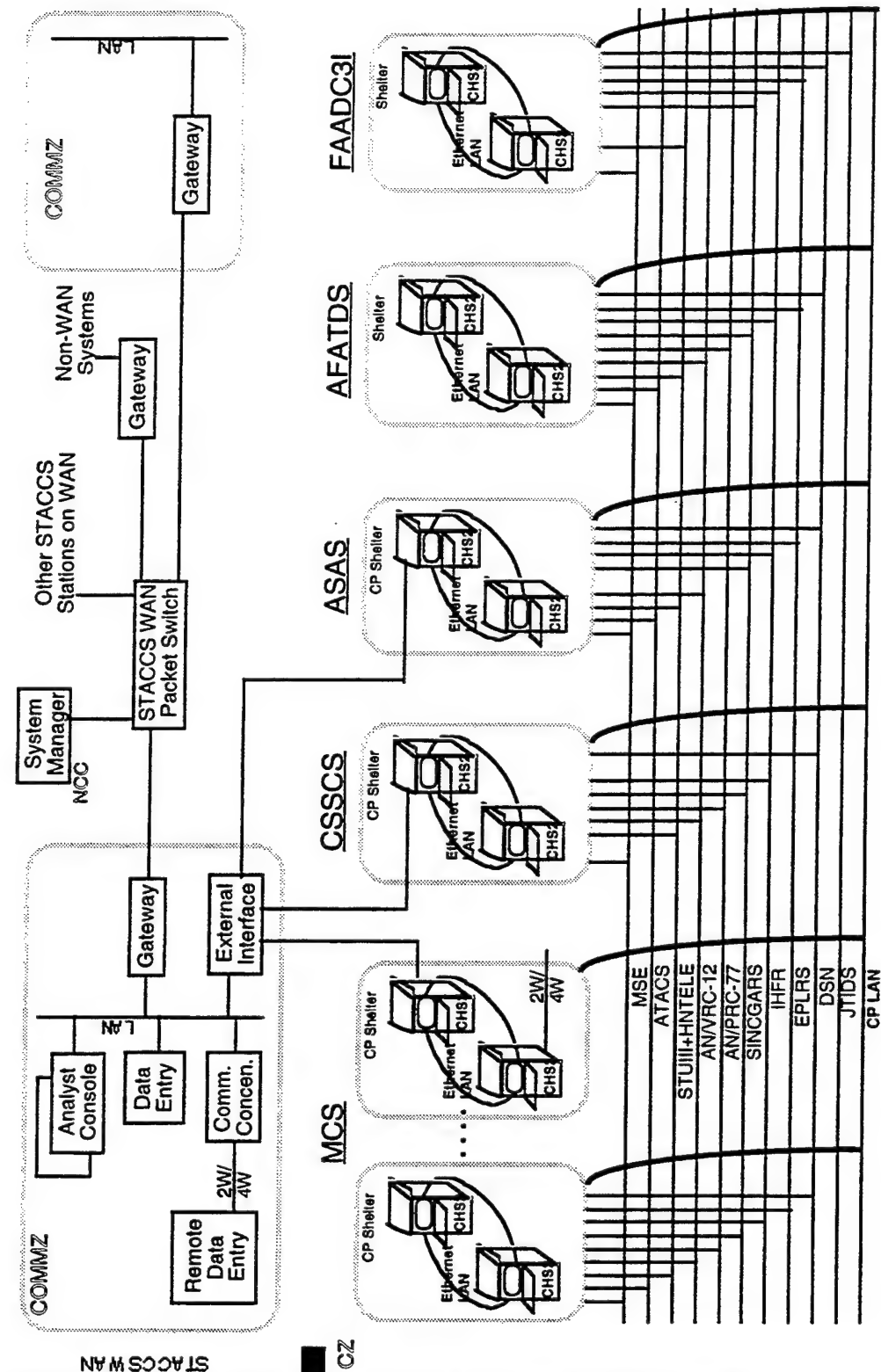
### JTIDS Local Interconnects MCS

Joint Tactical Information Distribution System  
Point to point connections, local telephone systems, etc.  
Maneuver Control System. Supports operations planning and control for any part of the Corps and below Army Command and Control System. Provides information on own forces, enemy forces and battlefield characteristics to commander and staff. Displays data generated within air/land combat environment. MCS will transition to common hardware/software in 1994 and Final Operational Capability (FOC) will be 1995.

### SINGGARS STACCS TCO WWMCCS

Single Channel Ground and Airborne Radio System  
Standard Theater Army Command and Control System  
Tactical Combat Operations is a Marine Corps system.  
Worldwide Military Command and Control System. The Army component of the WWMCCS ADP Modernization plan is the Army Worldwide Information System (AWIS).

Echelon Above Corps (Theater)  
STACCS WAN





## ARMY C4I PHYSICAL CONNECTIVITY

This diagram shows key Army C3I system connectivity, for the time frame circa 1995.

<b>AFATDS</b> <b>AN/PRC-77</b> <b>AN/VRC-12</b>	Advanced Field Artillery Tactical Data System. A radio in the CNR family. Replaced by SINGGARS. A small unit radio in the CNR family. Replaced by SINGGARS.
<b>ASAS</b> <b>ATACS</b>	All Source Analysis System. Army Tactical Area Communications System, which is the existing component ACUS. Eventually superseded by MSE.
<b>ATCCS</b> <b>CHS2</b>	Army Tactical Command Control System Common Hardware Software 2. The standard computing resources provided for ATCCS component systems. CHS2 will be first available in FY95.
<b>COMMZ</b>	Communications Zone; rear part of theater of operations (behind but continuous with the C2) which contains the lines of communications, supply, and evacuation, and other agencies for support and maintenance.
<b>CP</b> <b>LAN</b> <b>CSSCS</b> <b>CZ</b>	Command Post Local Area Network Combat Service Support Control System. Combat Zone; that area required by combat forces for the conduct of operations.
<b>DSN</b> <b>EPLRS</b>	Defense Switched Network. Enhanced Position Location Reporting System. Provides secure jam-resistant near real-time data communications support for ATCCS. It is a time division multiple access system using frequency hopping spread spectrum waveform in UHF. Additionally provides position location and reporting to the user and their headquarters (if equipped.) IOC is 1997.
<b>FAADC3I</b> <b>Gateway</b>	Forward Area Air Defense C3I. STACCS WAN connections to other networks.

<b>HFR</b>	Improved High Frequency Radios; a component of CNR.
<b>JTIDS</b>	Joint Tactical Information Distribution System which supports TADIL-J.
<b>LAN</b>	Local Area Network; Army will use the IEEE 802.3 Ethernet standard.
<b>MCS</b> <b>MSE</b>	Maneuver Control System. Mobile Subscriber Equipment. The new ACUS equipment that will allow for circuit switch or packet switch subscribers. Provides means for communicating in both division and corps areas of operation.
<b>NCC</b> <b>Packet Switch</b>	Network Control Center, for the STACCS WAN Central switching system at a STACCS WAN node to connect to other STACCS WANs and LANs.
<b>Shelter</b>	Army uses several mobile buildings for C2 centers.
<b>SINGGARS</b>	Single Channel Ground and Airborne Radio System. A family of VHF combat net radios which provides the primary means of command and control for Infantry, Armor and Artillery units.
<b>STACCS WAN</b>	Standard Theater Army Command and Control System Wide Area Network.
<b>STU-III + HINTELE</b>	Secure Telephone Unit III working in conjunction with a Host Nation Telephone system. The STU-III is a low cost wide band, two-wire secure telephone with up to 9600 baud data rate capabilities.
<b>2W/4W</b>	Two- or four- wire local telecommunications.

## US ARMY C4I STATUS

- Common Hardware / Software (CHS-II) contract awarded to GTE Corp./Sun Microsystems Inc. team in Sept. 1994. Incumbent was Miltope/Hewlett Packard. (This contract is on hold, since a protest has been filed against it.)
- Initial effort to transition systems to GCCS will be done under the AGCCS procurement which integrates strategic and theater functional components above the Corps level. [AWIS, STACCS, and CSSCS-EAC --->AGCCS] Contract award expected soon.
- Started migration of legacy systems under ATCCS program which provides the functional components for the Command Posts at Corps level and below. The transition of ATCCS to GCCS will be done under the Army Battle Command System (ABCS) program.
- Integrated Interoperability Demonstration (IID) of ATCCS functionality for Corps and below was conducted at Ft. Hood on 24-26 Aug. 94
- Army has the lead on a new C4I Digitization of the Battlefield initiative. The Army will be working closely with the Marine Corps to implement this capability to be demonstrated in the Brigade '96 experiment planned by the Army with participation by the other services.

# US AIR FORCE

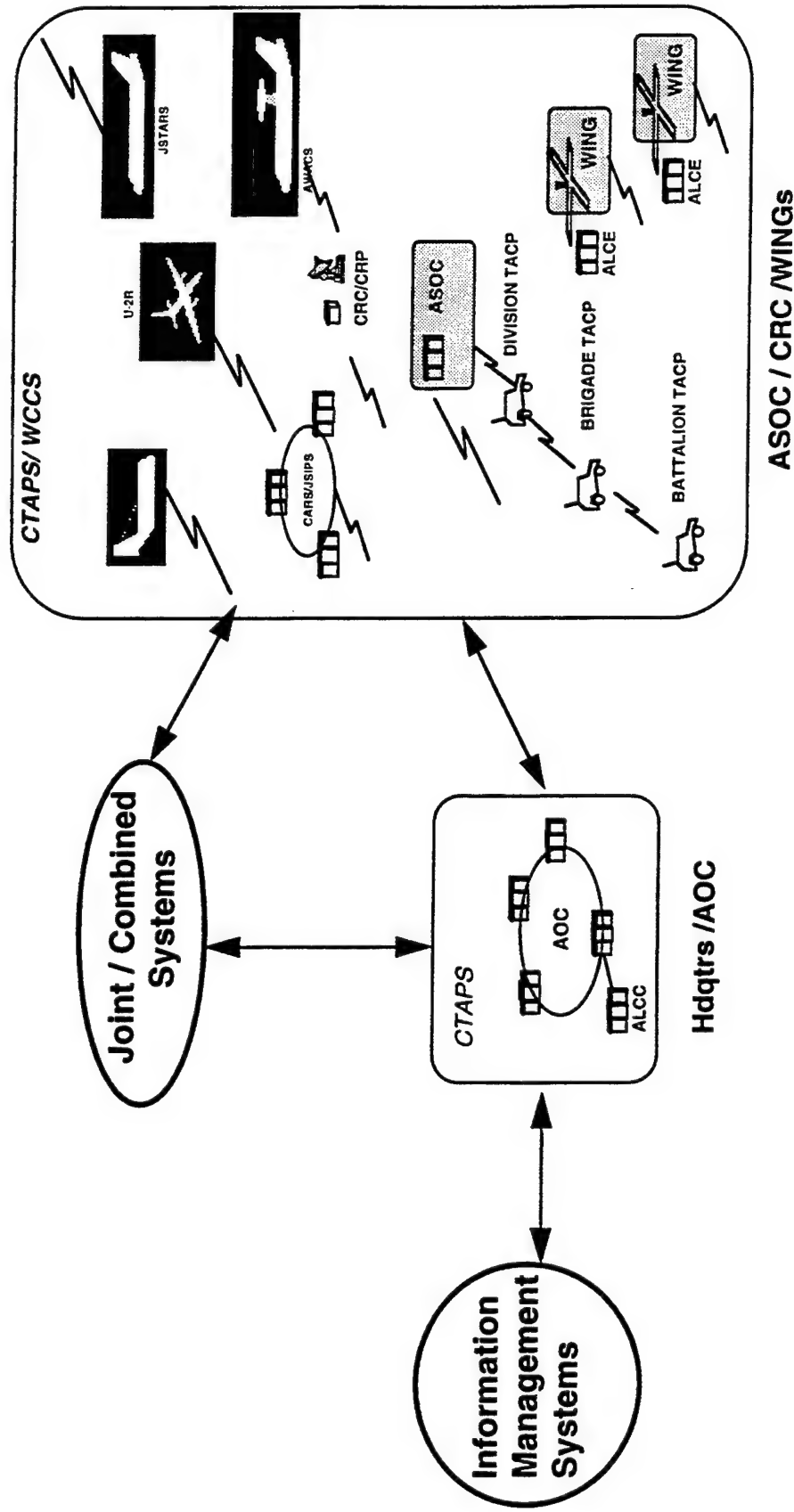
- HIGH LEVEL C4I STRUCTURE
- C4I TACS STRUCTURE
- C4I SYSTEMS FUNCTIONAL OVERVIEW
- C4I PHYSICAL CONNECTIVITY
- STATUS of C4I PROGRAMS

# AIR FORCE HIGH LEVEL C4I STRUCTURE

SUSTAINING BASE

THEATER (OPNS)

TACTICAL



## AIR FORCE HIGH LEVEL C4I STRUCTURE

This diagram is adapted from concepts in the Air Force Systems Master Plan, which is part of the Air Force's HORIZON strategy for "optimizing C4I capabilities from the present day into the 21st century."

**ALCC**  
**ALCES**  
**AOC**  
**ASOC**  
**AWACS**

Air Lift Control Center  
Air Lift Control Element  
Air Operations Center  
Air Support Operations Center  
Airborne Warning & Control System (E3-A).  
Wide area air surveillance and control of defense, including airspace management. Can cue interceptors on air targets.

**CARS/JSIPS**

Contingency Airborne Reconnaissance System. Provides SIGINT, imagery, and target data. Also referred to as the Joint Service Imagery Processing System.

**CRC**  
**CRP**  
**CTAPS**

Control & Reporting Center  
Control & Reporting Post  
Contingency Theater Automated Planning System is a program that produces products that automate the Air Control System. The CTAPS architecture is based on an evolutionary development and procurement philosophy making maximum use of commercial hardware and software technology.

**JSTARS**

Joint Surveillance Target Attack Radar System (E-8). Provides target location updates of ground vehicles, to the Army, using a synthetic aperture radar (SAR). Also has capability to conduct onboard analysis and display of SAR images to support near real-time target detection, identification, and reporting to attack aircraft within line of sight of JSTARS.

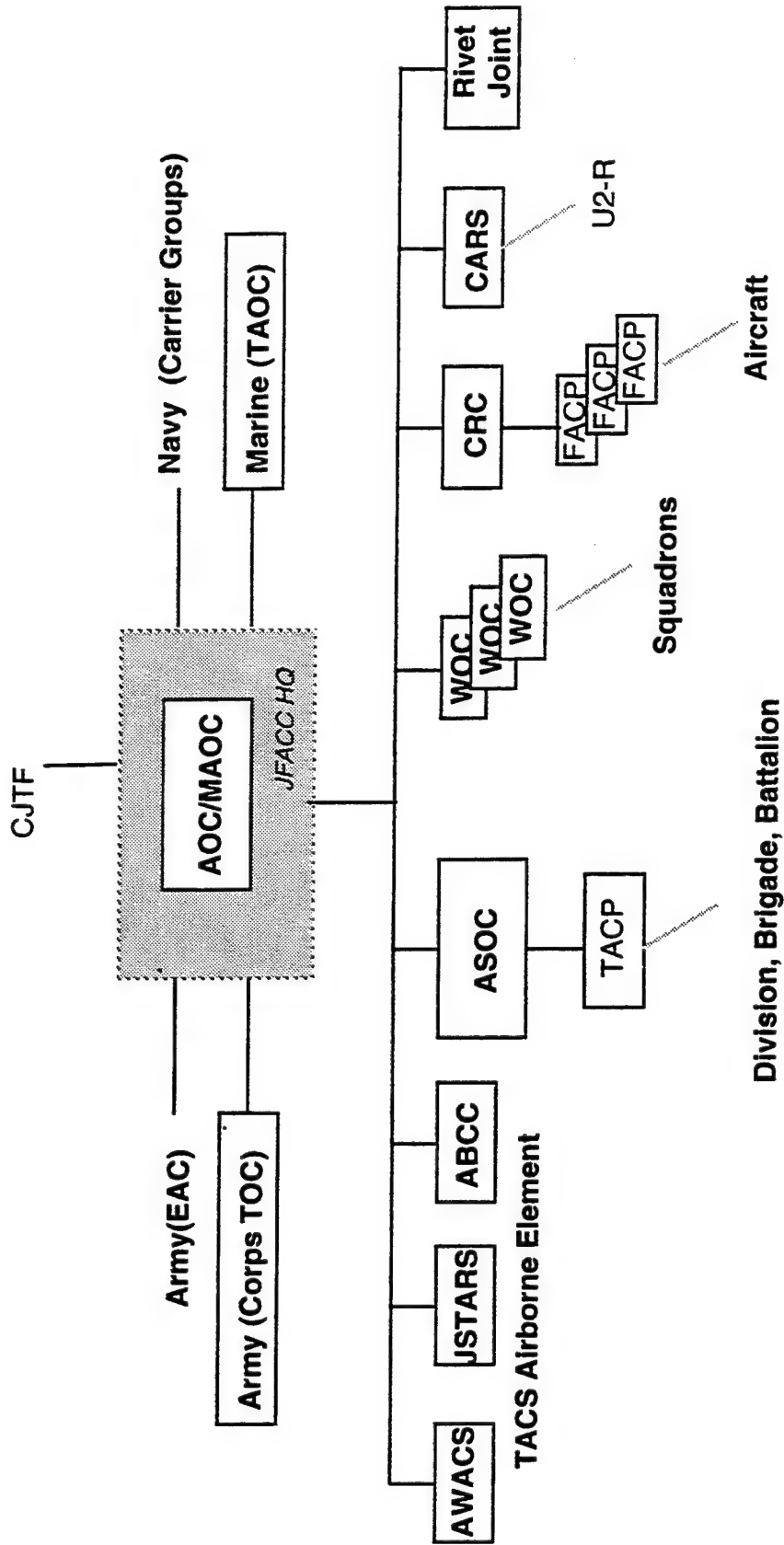
**TACP**  
**TBM**  
**U2-R**

Tactical Air Control Party  
Theater Battle Management

**WCCS**

Reconnaissance aircraft. Collects intelligence data processed by the CARS/JSIPS system. Wing Command and Control System provides decision support to Air Force wings at the unit level.

# AIR FORCE C4I TACS STRUCTURE



## AIR FORCE C4I TACS STRUCTURE

This diagram shows the high level structure of the Air Force for tactical (not strategic in the classic sense) C4I purpose. The boxes represent Air Force command centers (some airborne). AWACS, JSTARS and Rivet Joint provide functionality beyond the Air Force to other services. The AOC is the facility that houses the JFACC. The AOC may be mobile (thus MAOC).

### ABCCC

Airborne Battlefield Command and Control Center. This key airborne center is highly connected to other Air Component elements, though it has no sensing capabilities of it's own. Houses tactical displays and extensive communications capabilities. Allows for airspace management of wider scope than FACP.

### AOC

Air Operations Center. Command center for the commander of the air component. From where daily Air Tasking Orders (ATOs) are generated.

### AFAC

Airborne Forward Air Controller. Manages close air support, controls attacks, and assess damage.

### ASOC

Air Support Operations Center. Air Force unit collocates with Army ground based mobile shelters. Provides control of Army units, manages TACPs, and coordinates with Army operations.

### AWACS

Airborne Warning and Control System (E3-A). Wide area air surveillance and control of defense, including airspace management. Can cue interceptors on air targets. Some AWACS have been modified to detect ocean surface targets to support maritime surveillance missions.

### CARS

Contingency Airborne Reconnaissance System. Provides SIGINT, imagery, and target data. Also referred to (in future architectures) as the Joint Services Imagery Processing System (JSIPS).

### CJTF

Commander Joint Task Force

### CRC

Control & Reporting Center

### EAC

Echelon Above Corps (Army)

### FACP

Forward Air Controller Post. Provides air surveillance and manages local air space.

### JFACC HQ

Joint Force Air Component Commander Headquarters

### JSTARS

Joint Surveillance Target Attack Radar System (E-8).

### MAOC

Mobile Air Operations Center. (The AOC may be integrated with the Navy systems on a carrier.)

### Rivet Joint

Reconnaissance aircraft designated E-135. Receives and processes long range SIGINT in support of ELINT and COMINT missions. Capability to display and analyze data, including identification, location, and parametric. Supports updating potential threat electronic order of battle (EOOB), analyses of theater's current electronic signatures, and provides indications and warnings of threat activity.

### TACP

Tactical Air Control Party. Mobile ground controller for air support for Army. Subordinate to ASOC.

### TACS

Theater Air Control System

### TAOC

Tactical Air Operations Center (Marine Corps)

### TOC

Tactical Operations Center (Army)

### U2-R

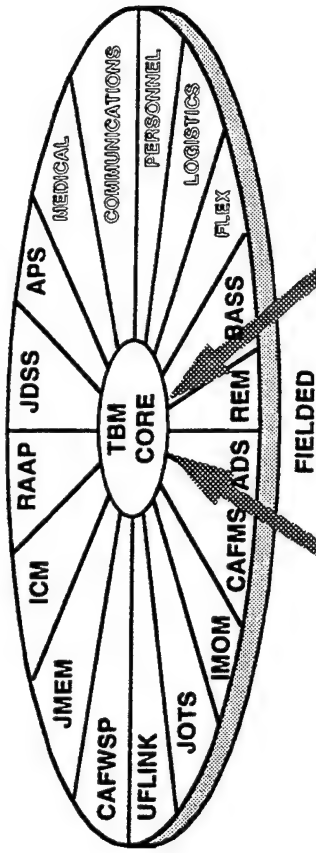
Reconnaissance aircraft. Intel collection, SIGINT, imagery.

### WOC

Wing Operations Center. The Implementor of ATOs, Force readiness, detailed mission planning, execution of orders, and reporting of status.

# AIR FORCE C4I SYSTEMS FUNCTIONAL OVERVIEW

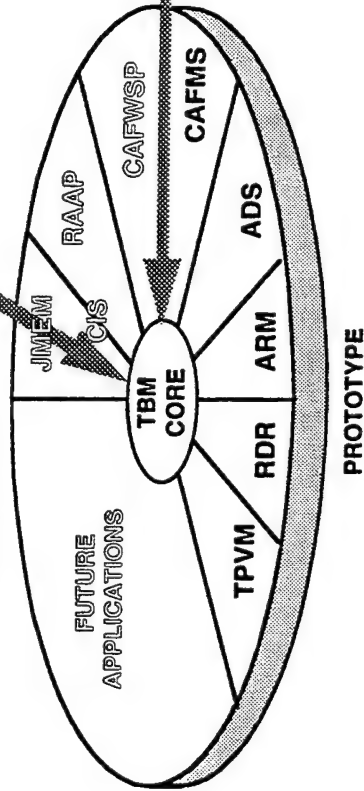
## Air Component Commander HQ & Air Operations Center



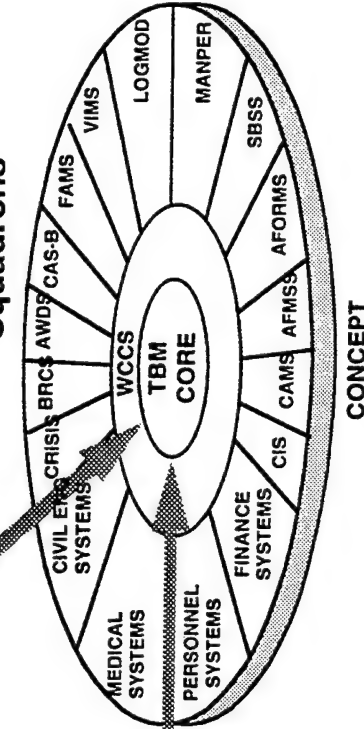
FORCE LEVEL

UNIT LEVEL

## Air Support Operations Center



## Wings Squadrons

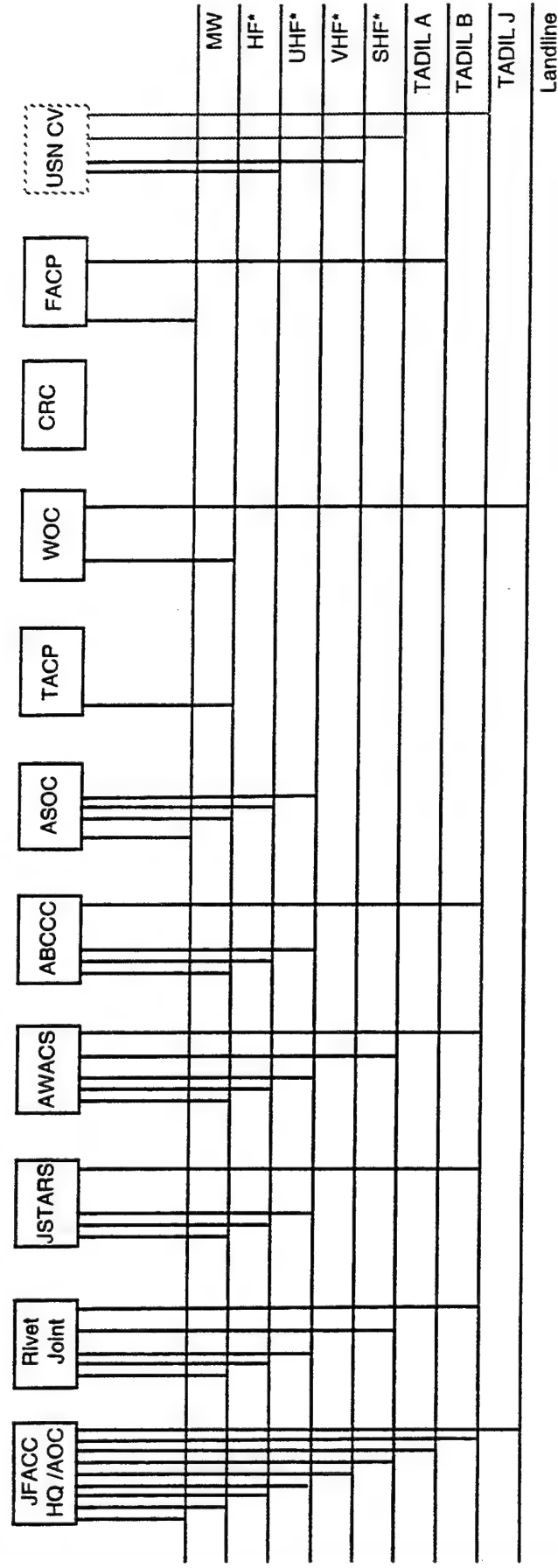




## AIR FORCE C4I SYSTEMS FUNCTIONAL OVERVIEW

This diagram depicts the CTAPS products which support the C4I functionality in the prime Air Force C2 operational centers.

<b>ADS</b>	Airspace Deconfliction System (Airspace planning; produce Airspace Control Order)	<b>LOGMOD</b>	Logistics Module
<b>AFMSS</b>	Air Force Mission Support System (Aircrew mission planning)	<b>MANPER</b>	Manpower and Personnel Module
<b>AFORMS</b>	Air Force Operational Resource Management System	<b>RAAP</b>	Rapid Application of Air Power (Targeting)
<b>APS</b>	Advanced Planning System (ATO planning)	<b>RDR</b>	Remote Data Requestor
<b>ARM</b>	Air Request Manager	<b>REM</b>	Route Evaluation Module (Route Analysis)
<b>AWDS</b>	Automated Weather Dissemination System	<b>TBM</b>	Theater Battle Management
<b>BRCS</b>	Base Recovery after attack Comm System	<b>TPVM</b>	Target Plotting and Verification Module
<b>CAFMS</b>	Computer Assisted Force Management System (ATO management)	<b>UFLINK</b>	Unit to Force Level Link (CTAPS - WCCS Interface)
<b>CAFWSP</b>	Combat Air Forces Weather Support Program (Contains the Defense Automated Weather System.)	<b>WCCS</b>	Wing Command and Control System (Unit battle management)
<b>CAMS</b>	Consolidated Aircraft Maintenance System		
<b>CAS-B</b>	Combat Ammunition System - Base		
<b>CIS</b>	Combat Intelligence System		
<b>CTAPS</b>	Contingency Theater Automated Planning System		
<b>ICM</b>	Intelligence Correlation Module (Orders of Battle correlation and management)		
<b>IMOM</b>	Improved Many-On-Many (EC analysis)		
<b>JMEM</b>	Joint Munitions Effectiveness Manual (Weapon engineering)		
<b>JOTS</b>	Joint Operational Tactical System (Navy)		



## AIR FORCE C4I PHYSICAL CONNECTIVITY

This diagram shows the communications connectivity among the key Air Force centers and a Navy carrier. The asterisk in HF/UHF/VHF/SHF indicates that there are multiple connectivities with these media.

<b>ABCCC</b>	Airborne Battlefield Command and Control Center
<b>AOC</b>	Air Operations Center
<b>ASOC</b>	Air Support Operations Center
<b>AWACS</b>	Airborne Warning and Control System
<b>FACP</b>	Forward Air Controller Post
<b>HF</b>	High Frequency
<b>JFACC</b>	Joint Force Air Component Commander
<b>JSTARS</b>	Joint Surveillance Target Attack Radar System
<b>MW</b>	MicroWave (Line of Sight LOS)
<b>Rivet Joint</b>	E-135 reconnaissance aircraft.
<b>SHF</b>	Super High Frequency
<b>TACP</b>	Tactical Air Control Party
<b>TADIL A</b>	Tactical Digital Link - A supported by Link-11.
<b>TADIL B</b>	Tactical Digital Link - B
<b>TADIL J</b>	Tactical Digital Link - C supported by JTIDS.
<b>UHF</b>	Ultra High Frequency
<b>USN CV</b>	US Navy aircraft carrier
<b>VHF</b>	Very High Frequency
<b>WOC</b>	Wing Operations Center

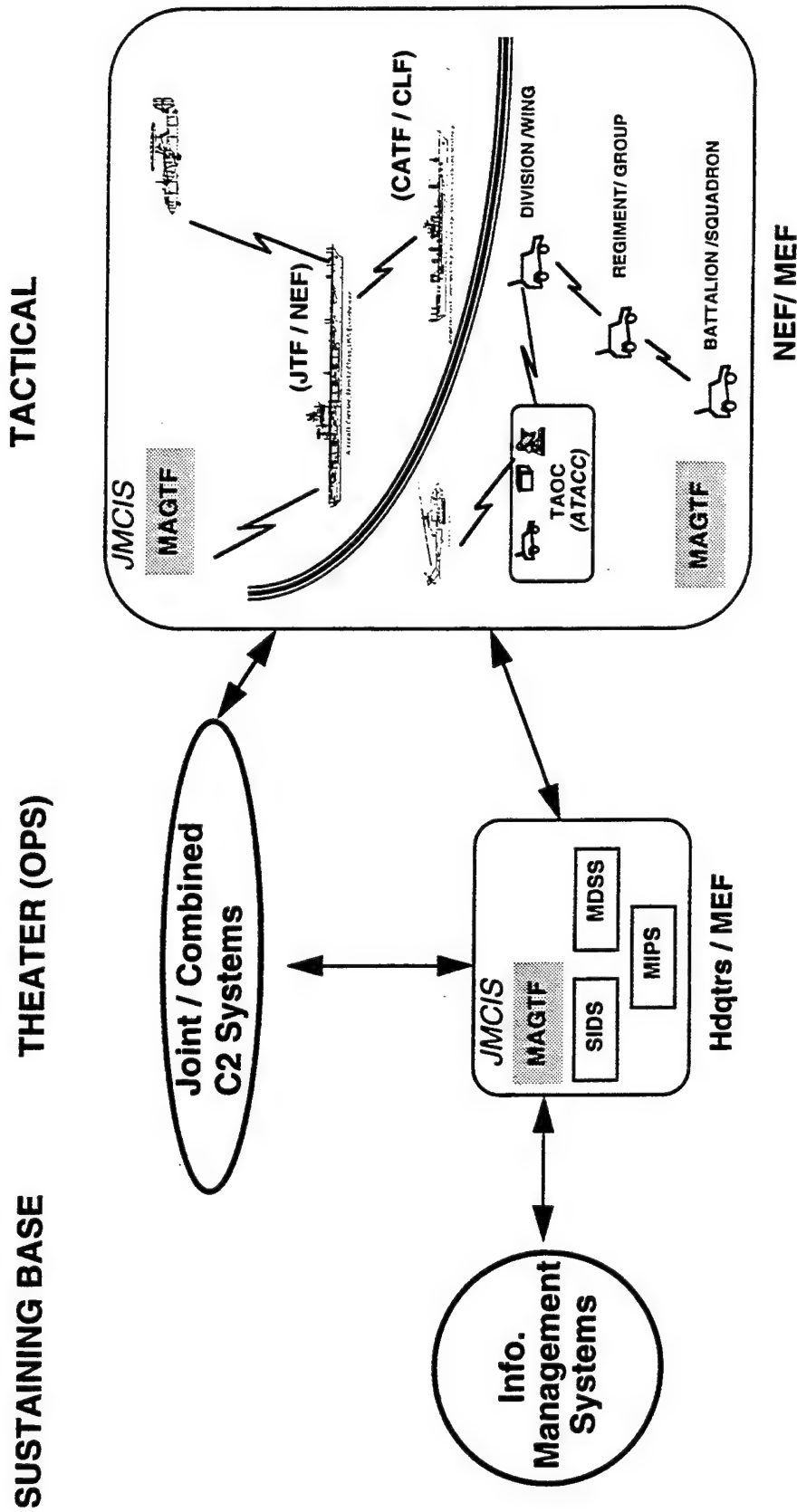
## US AIR FORCE C4I STATUS

- **Prototype Air Support Operation Center (ASOC) fielded in FY94 using CTAPS modules**
- **Theater Battle Management (TBM) core follow-on RFP has been issued. The TBM integration effort is expected to build on the CTAPS technical architecture implemented at the Force level. Prospective vendors were invited to a briefing held at Mitre Corp. in Bedford, Mass. in Aug. , 1994.**
- **The AFCAC replacement is not expected for two more years. A procurement to be a bridge between AFCAC and its follow-on is being planned now.**

# US MARINE CORPS

- C4I HIGH LEVEL STRUCTURE
- MAGTF C4I STRUCTURE (NEAR TERM)
- MAGTF C4I SYSTEMS FUNCTIONAL  
OVERVIEW (1997+)
- GENERIC MAGTF CONNECTIVITY
- STATUS of C4I PROGRAMS

# MARINE HIGH LEVEL C4I STRUCTURE

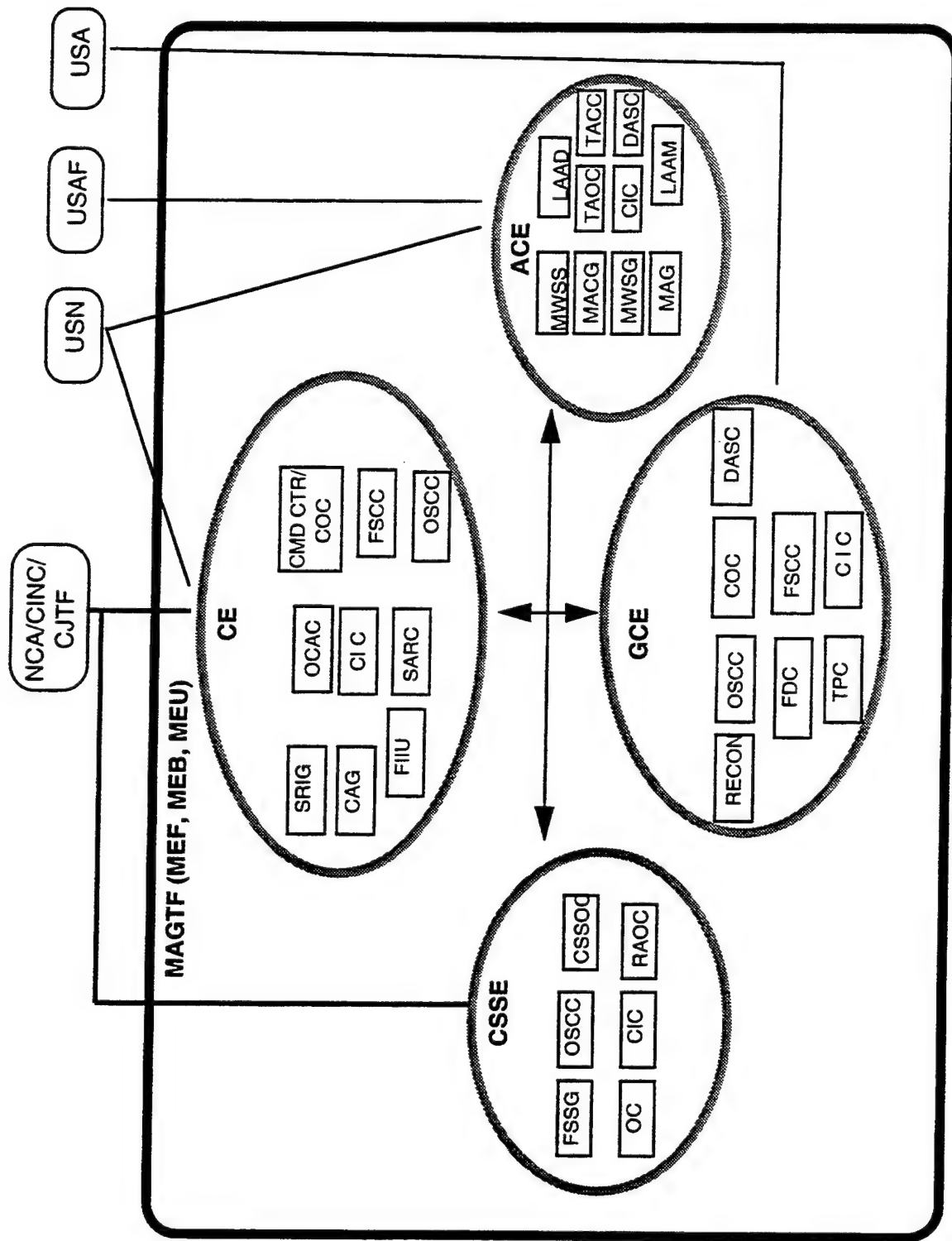


## MARINE CORPS HIGH LEVEL C4I STRUCTURE

The MAGTF is the Marine Corp's C2 Infrastructure, whether afloat or ashore, which enables the Marine Corps to support the strategic through tactical levels of war. All MAGTFs, regardless of size, have the same fundamental structure: a command element, a ground combat element, an aviation combat element, and a combat service support element.

<b>ATACC</b>	Advanced Tactical Air Command Central
<b>CATF</b>	Commander Amphibious Task Force
<b>CLF</b>	Commander Landing Force
<b>JMCIS</b>	Joint Maritime Command Information System is the Navy's integrated C2 system
<b>JTF</b>	Joint Task Force
<b>MAGTF</b>	Marine Air - Ground Task Force
<b>MDSS</b>	MAGTF Deployment Support System
<b>MEF</b>	Marine Expeditionary Force
<b>MIPS</b>	MAGTF Integrated Personnel System
<b>NEF</b>	Naval Expeditionary Force
<b>SIDS</b>	Secondary Imagery Distribution System
<b>TAOC</b>	Tactical Air Operations Center

# MAGTF C4I STRUCTURE (1995 - 1996)





## MARINE CORPS C4I STRUCTURE (1995 - 1996)

This diagram shows the components of the Marine Corps C2 structure. The items in rectangles are centers possible in a MAGTF. A MAGTF, by no means, would include all the centers shown above for any one mission. The diagram also shows the basic relationships that exist among elements of a MAGTF and with external (to the USMC) entities.

<b>ACE</b>	Aviation Combat Element. Ranges in size from a helo squadron to one or more aircraft wings; it may include offensive air support, assault support, anti-air warfare, electronic warfare, and C2 organizations.
<b>CAG CE</b>	Civil Affairs Group Command Element. Provides single headquarters for command and coordination of ground, air, and combat service support.
<b>CIC</b>	Combat Intelligence Center
<b>CINC</b>	Commander in Chief
<b>CJTF</b>	Commander Joint Task Force
<b>CMD CTR</b>	Command Center
<b>COC</b>	Combat Operations Center
<b>CSSE</b>	Combat Service Support Element. Is tailored to provide logistics support, including supply, maintenance, engineering, etc. services.
<b>CSSOC DASC</b>	Combat Service Support Operations Center Direct Air Support Center. An expandable 8'x8'x20' shelter used to coordinate close air support, assault support, and air recon. Current DASC replaced by an improved version (IDASC) with IOC of 93.
<b>FDC</b>	Fire Direction Center
<b>FIU</b>	Force Imagery Interpretation Unit
<b>FSCC</b>	Fire Support Coordination Center
<b>FSSG</b>	Force Service Support Group
<b>GCE</b>	Ground Combat Element. Ranges in size from an Infantry battalion to one or more divisions. May include artillery, tank, etc. orgs.
<b>LAAD</b>	Low Altitude Air Defense
<b>LAAM</b>	Light Anti-Aircraft Missile
<b>MACG</b>	Marine Air Control Group
<b>MAG</b>	Marine Aircraft Group

### MAGTF

Marine Air-Ground Task Force. Combined armed forces consisting of ground, air, and combat service support forces, under the direction and control of a single commander. It is the overall conceptual framework for forming forces for combat operations. Marine Expeditionary Brigade. An assault echelon embarked aboard approximately 20 amphibious ships. CE commanded by a Brigadier General. Marine Expeditionary Force. Active Marine forces are organized into three MEFs, one in the Atlantic Command and two in the Pacific Command. Largest and most powerful of MAGTFs, the CE is commanded by a Major General or Lieutenant General.

### MEB

Marine Expeditionary Brigade. An assault echelon embarked aboard approximately 20 amphibious ships. CE commanded by a Brigadier General.

### MEF

Marine Expeditionary Force. Active Marine forces are organized into three MEFs, one in the Atlantic Command and two in the Pacific Command. Largest and most powerful of MAGTFs, the CE is commanded by a Major General or Lieutenant General.

### MEU

Marine Expeditionary Unit. Smallest air-ground task force, embarked aboard 3-5 amphibious ships, CE commanded by a Col.

### MWSS

Marine Wing Support Group

### NCA

National Command Authority

### OC

Operations Center

### OCAC

Operations Control & Analysis Center

### OSCC

Operational Systems Control Center

### RAOC

Rear Area Operations Center

### RECON

Reconnaissance

### SARC

Surveillance & Reconnaissance Center

### SRIG

Surveillance, Reconnaissance & Intelligence Group

### TACC

Tactical Air Command Center. Provides the tactical air commander with communications, system processing, data correlation and displays needed to support planning and directing of overall air support. The systems and components that make up the TACC will be replaced by the Advanced TACC (ATACC) beginning in FY95.

### TAOC

Tactical Air Operations Center is used for exercising command and control of air operations.

### TPC

Target Planning Center

### USA

United States Army

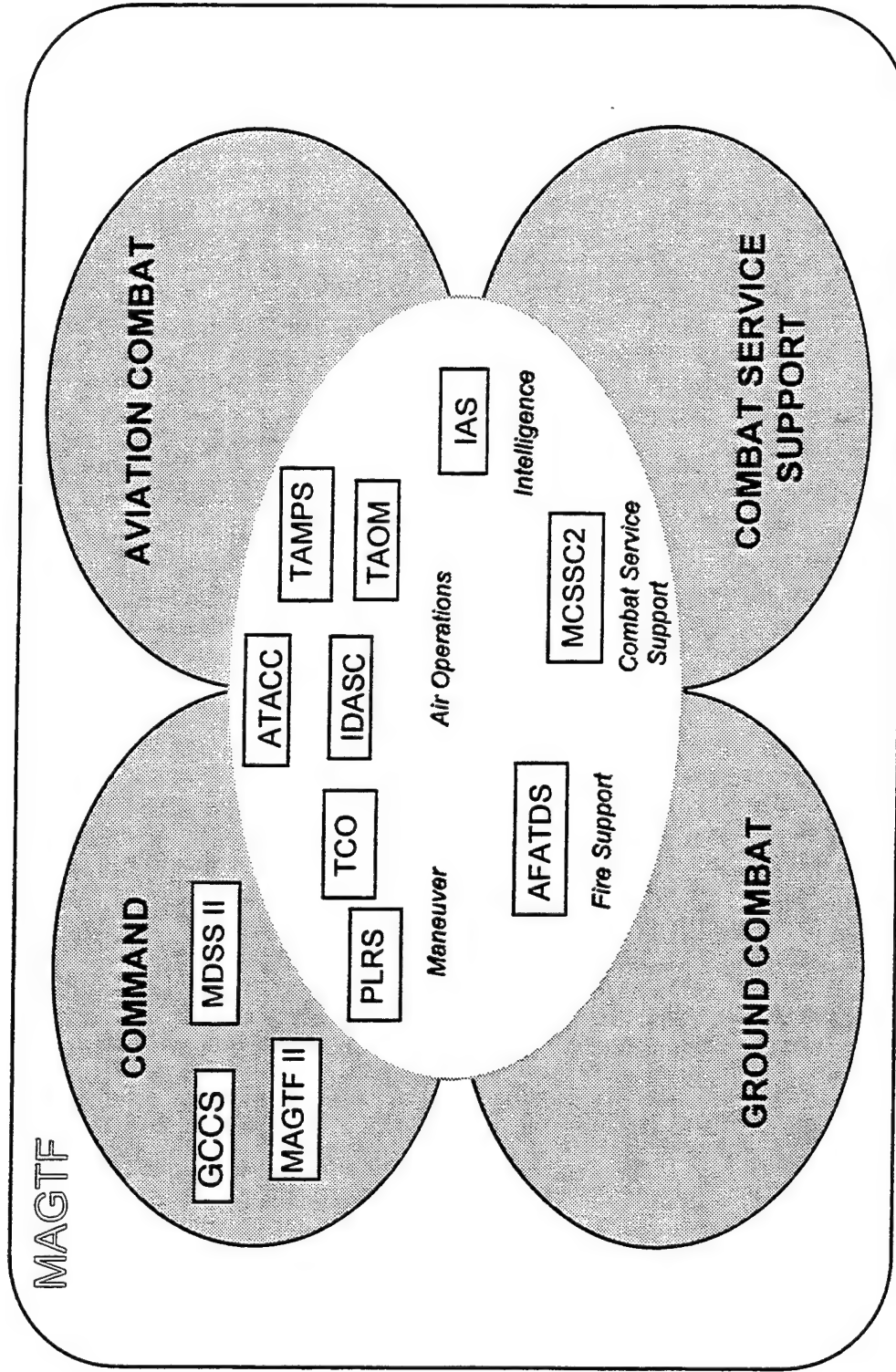
### USN

United States Navy

### USAF

United States Air Force

## USMC MAGTF ELEMENTS and KEY SYSTEMS (1997+)



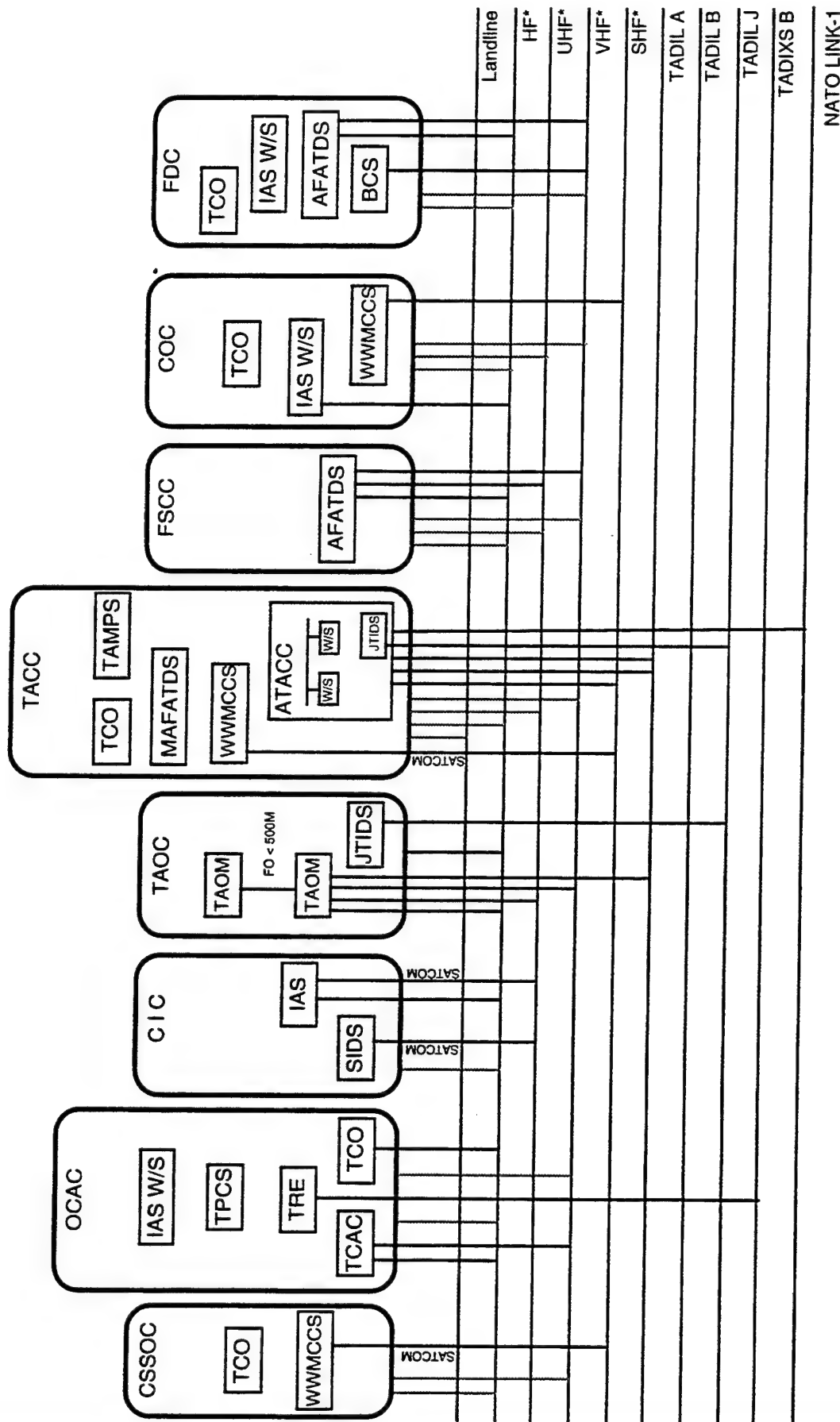
## USMC MAGTF ELEMENTS and KEY SYSTEMS (1997+)

This diagram provides an executive level overview of MAGTF C4I systems by functional area and MAGTF element (for the 1997+ time frame.) The large gray ovals represent possible MAGTF elements. Each of the functional areas for C2 is derived from the Marine Corps FMFM 3, Command and Control document. The rectangles represent the major automated system supporting C2 functions. The systems in the large white central oval can be used to perform functions for any of the four possible MAGTF elements. Three systems (GCCS, MAGTF II, MDSS II) are unique to the Command element.

<b>AFATDS</b>	Advanced Field Artillery Tactical Data System
<b>ATACC</b>	Advanced Tactical Air Command Central provides the tactical air commander with the decision aids needed to support planning and directing of overall air support.
<b>GCCS</b>	Global Command and Control System is the C2 system for Joint Services.
<b>IDASC</b>	Improved Direct Air Support Central
<b>IAS</b>	Intelligence Analysis System
<b>JMCIS</b>	Joint Maritime Command Information System is the Navy's C2 system.
<b>MAGTF</b>	Marine Air Ground Task Force

<b>MAGTF II</b>	Marine Air Ground Task Force II system serves as a bridge between the MAGTF logistics automated information systems and the Joint Operation Planning and Execution System (JOPES).
<b>MCSSC2</b>	Marine Combat Service Support Command and Control
<b>MDSS II</b>	MAGTF Deployment Support System II enables Commanders at various echelons of a MAGTF to build and maintain a database that contains force and equipment data reflecting how a MAGTF is configured for deployment.
<b>PLRS</b>	Position Location Reporting System
<b>TAMPS</b>	Tactical Aircraft Mission Planning System developed by the Navy.
<b>TAOM</b>	Tactical Air Operations Module is used to manage the air traffic control, providing real-time C2 of all MAGTF air and surface-to-air missile assets.
<b>TCO</b>	Tactical Combat Operations is the focal point of the MAGTF C2 network. Provides commander, staff, and subordinates automation to receive, fuse, display, and disseminate C2 information, for both planning and direction.
<b>WWMCCS</b>	World Wide Military Command and Control System

# USMC GENERIC MAGTF CONNECTIVITY



## USMC GENERIC MAGTF CONNECTIVITY

This diagram shows nominal connectivity for a MAGTF. Different instantiations of the MAGTF (as a MEF, MEB, or MEU) will have different combinations of centers and configurations of systems in those centers.

Gray lines connecting centers and communications services imply connection to multiple systems in that center (through switching.)

Detailed definitions of the following acronyms can be found on the preceding pages.

**AFATDS** Advanced Field Artillery Tactical Data System

**ATACC** Advanced Tactical Air Command Central

**BCS** Battery Computer System

**CIC** Combat Intelligence Center

**CMD CTR** Command Center

**COC** Combat Operations Center

**CSSOC** Combat Service Support Operations Center. The CSSOC shown is for the Force Service Support Group Headquarters.

**FDC** Fire Direction Center

**FO** Fiber Optic

**FSCC** Fire Support Coordination Center

**HF** High Frequency

**IAS** Intelligence Analysis System

**IAS W/S** IAS Workstation version

**JTIDS** Joint Tactical Information Distribution System

**Landline** 2W or 4W data and voice

**MAGTF II** Marine Air Ground Task Force II system

**OCAC** Operations Control and Analysis Center

**PLRS** Position Location Reporting System

**SATCOM** Satellite communications

**SHF** Super High Frequency

**SIDS** Secondary Imagery Distribution System

**TACC** Tactical Air Command Central

**TADIL** Tactical Digital Information Link. Three in use by the Marine Corp. (A, B, J).

**TADIXS** Tactical Data Information Exchange System

**TAMPS** Tactical Air Mission Planning System

**TAOC** Tactical Air Operations Center

**TAOM** Tactical Air Operations Module

**TCAC** Technical Control and Analysis Center

**TCO** Tactical Combat Operations

**TPCS** Team Portable COMINT System

**TRE** Tactical Receive Equipment

**UHF** Ultra-High Frequency

**VHF** Very High Frequency

**W/S** Workstation. ATACC will use a TBD workstation configuration for consoles.

**WWMCCS** World Wide Military Command and Control System

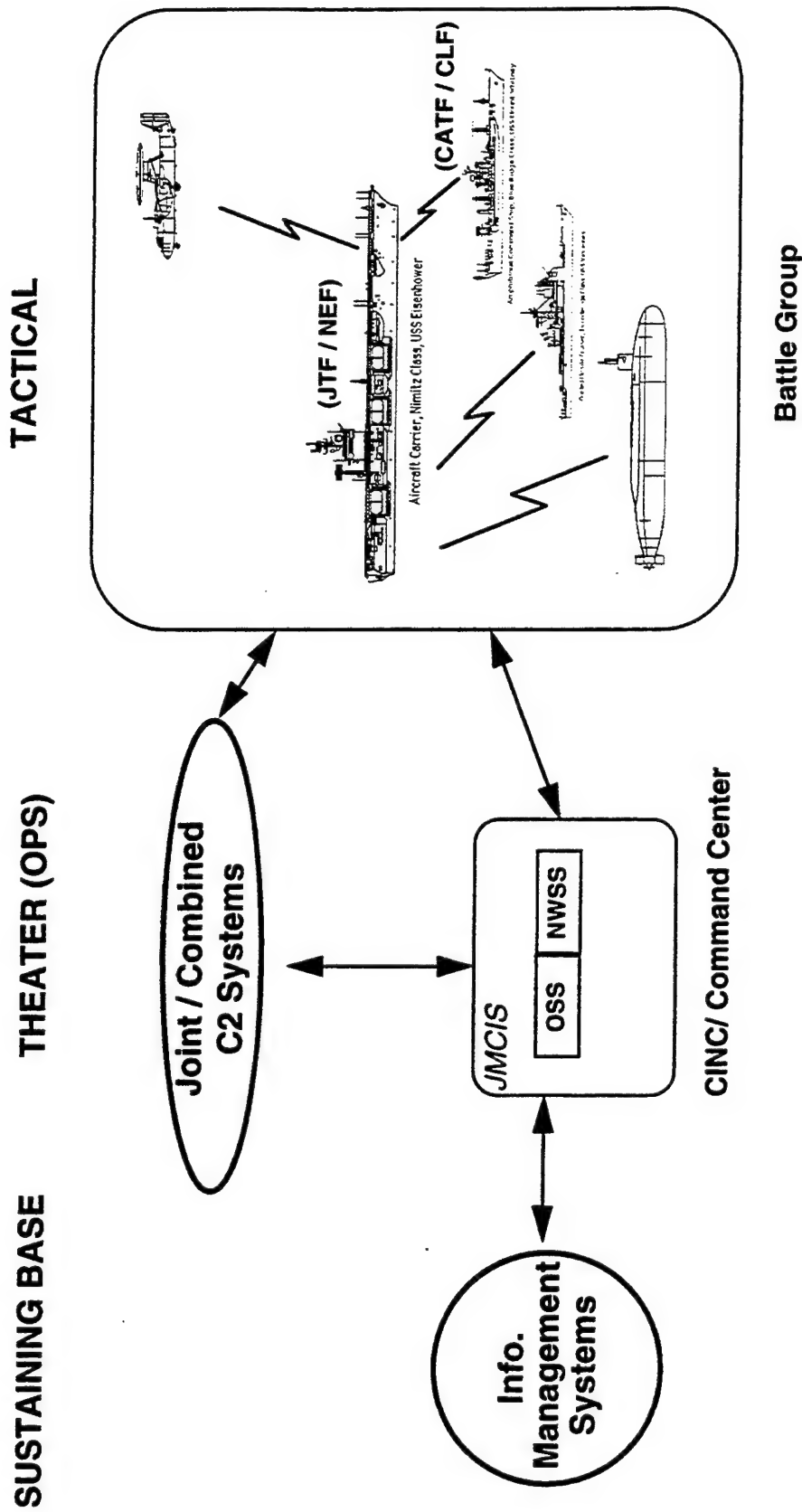
## US MARINE CORPS C4I STATUS

- Completed analysis of MAGTF tactical systems to identify candidate systems for migration to the JMCIS environment. Initiated the migration of these systems to an open architecture environment.
- Marine Corps will be the lead Service for JWID-95 with its theme of "C4I for the Joint Expeditionary Warrior."
- Funding for the procurement of the MAGTF C4I Digitization of the Battlefield capability has been allocated for fiscal years 1996 through 1999. The Army has the responsibility for research and development, but will be working closely with the Marine Corps to ensure that Marine requirements are included.
- Plan to demonstrate in JWID-95 a prototype service support logistics system MCSSC2 based on the Army's CSSCS system .

# US NAVY

- HIGH LEVEL C4I STRUCTURE
- C4I STRUCTURE (NEAR TERM)
- C4I SYSTEMS FUNCTIONAL OVERVIEW
- STATUS of C4I PROGRAMS

# NAVY HIGH LEVEL C4I STRUCTURE





## NAVY HIGH LEVEL C4I STRUCTURE

This diagram presents a high level overview of the C4I structure for the Navy. Prior to the development of the Navy's Joint Maritime Command Information System (JMCIS), two command and control systems were deployed by the Navy: NTCS-A for the Afloat platforms and OSS for ashore nodes. Under JMCIS, the afloat and ashore systems are integrated into one common system supporting various hardware configurations.

### Battle Group

Basic unit of a Naval force. Traditionally composed of one CV, several combatants, and support.

#### CATF

Commander, Amphibious Task Force

#### CCC

CINC Command Center is the shore command center for each theater of operations.

#### CINC

Commander in Chief

#### CLF

Commander of the Landing Force in amphibious warfare.

#### CV

Aircraft Carrier

#### JMCIS

Joint Maritime Command Information System is the Navy's evolutionary command and control system, one of the candidate C2 systems being considered as the basis for the Global Command and Control System planned for Joint use.

#### JTF

Joint Task Force

#### NEF

Naval Expeditionary Force

#### NTCS-A

Naval Tactical System Afloat was the command and control system used on Navy afloat platforms prior to JMCIS.

#### NWSS

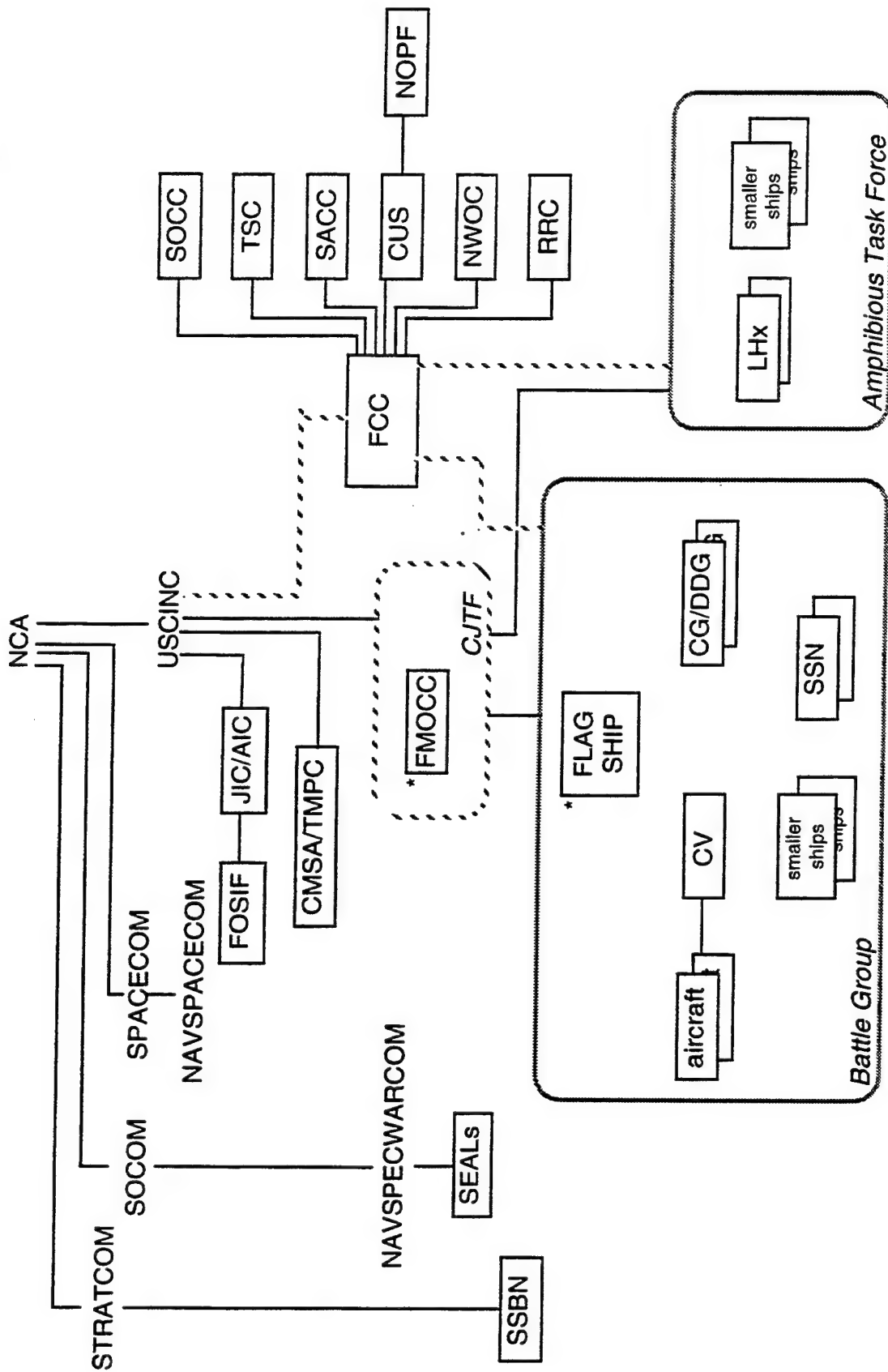
Navy WWMCCS Standardization System. Navy used this system to interface to the Joint WWMCCS

system, but this functionality is being integrated into JMCIS.

#### OSS

Operations Support System was the shore based command and control system used to support Fleet Command Centers before being integrated into JMCIS.

## NAVY C4I STRUCTURE (NEAR TERM)



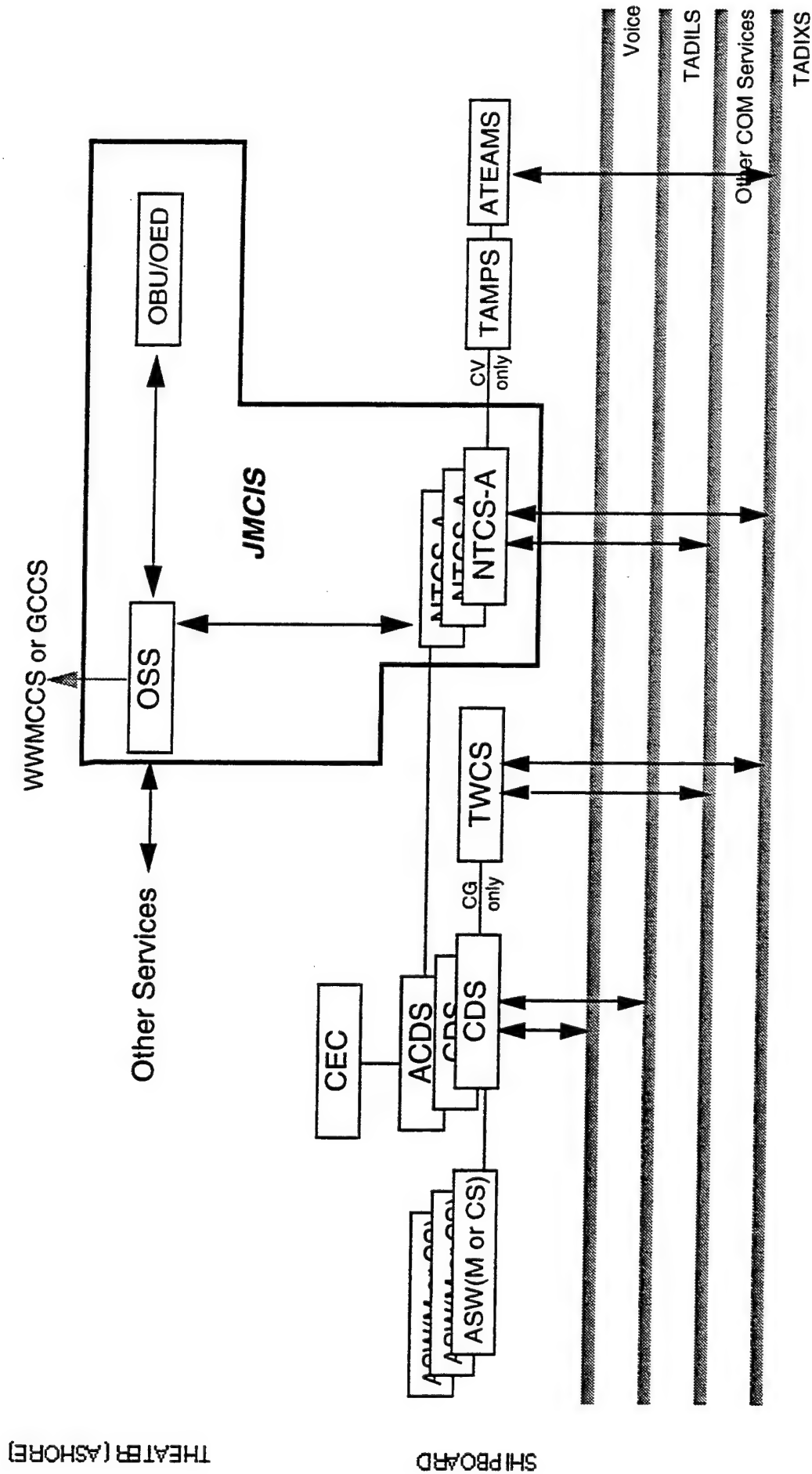
## NAVY C4I STRUCTURE (NEAR TERM)

This diagram gives an overview of the key Navy C2 components and their relationships to each other. The solid lines indicate a direct command or control. The dashed lines connected to the FCC indicate support (in a Joint context); when the Navy is the only component they default to solid lines. The asterisk next to the FMOCC and Flag Ship indicates that the Naval Component Commander would be in either, but not both places.

<b>aircraft</b>	A variety of aircraft are used by the Navy on CVs.
<b>Battle Group</b>	Basic unit of a Naval force. Traditionally composed of one CV, several combatants, and support.
<b>CG</b>	Guided Missile Cruiser
<b>CJTF</b>	Commander, Joint Task Force
<b>CMSA/TMPC</b>	Cruise Missile Support Activity and Theater Mission Planning Center.
<b>CUS</b>	Commander Undersea Surveillance (Formed from integration of CUSP and CUSL. With the disestablishment of COMUNDERSEASURVPAC, effective Sept. 30, 1994, CUSL in the Atlantic administratively became the single Undersea Surveillance Command. Operational control for CUSP remains with the Commander, ASW Force, U.S. Pacific Fleet and CINCPAC, U.S. Atlantic Fleet respectively.)
<b>CV</b>	Aircraft Carrier
<b>DDG</b>	Guided Missile Destroyer
<b>FCC</b>	Fleet Command Center
<b>FMOCC</b>	Fleet Mobile Operations Command Center. Now also called the Joint Mobile Operations Command Center (JMOCC.)
<b>Flag Ship</b>	A Naval Component Commander may be afloat.

<b>FOSIF</b>	Fleet Ocean Surveillance Information Facility.
<b>JIC/AIC</b>	Joint Intelligence Center (for PACOM). In the Atlantic command it is called the AIC.
<b>LHx</b>	Amphibious ships (LHD or LHA), the principal C2 platform for amphibious operations.
<b>NAVSPECWARCOM</b>	Naval Special Warfare Command is the Navy component of SOCOM.
<b>NAVSPACECOM</b>	Naval Space Command
<b>NCA</b>	National Command Authority
<b>NWOC</b>	Naval Western Oceanographic Center. Located at Pearl Harbor. There is an Eastern Center located at Norfolk.
<b>NOPF</b>	Naval Oceanographic Processing Facility
<b>RRC</b>	Regional Reporting Center
<b>SACC</b>	An Ashore ASW Command Center
<b>SEALs</b>	Sea Air Land units deployed as part of Special Operations Forces.
<b>smaller ships</b>	A variety of ships smaller than a DDG, such as frigates.
<b>SOCC</b>	Submarine Operations Command Center
<b>SOCOM</b>	Special Operations Command is one of the DOD Unified Commands.
<b>SSBN</b>	Ballistic Missile Nuclear Powered Submarine
<b>SSN</b>	Attack Submarine (Nuclear Powered)
<b>STRATCOM</b>	Strategic Command, a Unified Command
<b>TSC</b>	Tactical Support Center (The former AntiSubmarine Warfare Operations Center)
<b>USCINCPAC</b>	United States Commander in Chief

# NAVY C4I SYSTEMS FUNCTIONAL OVERVIEW



## NAVY SYSTEMS FUNCTIONAL OVERVIEW

This diagram depicts the major Navy C4I systems for the near term (circa FY94). Each ship (and shore site) has its own variations. The solid lines without arrows connecting the shipboard systems indicate that the relationships are dependent upon ship type. e.g., TAMPS and TEAMS are found on carriers, while the TWCS is on cruisers.

- ASW(M or CS)** Anti-Submarine Warfare Module (for carriers) or Anti-Submarine Warfare Combat System (for other combatants.) Supports the Anti-Submarine warfare mission of the ship. Includes mission planning, tactical situation monitoring, and data correlation. ASWCS also provides weapons (e.g., torpedo) control
- ATEAMS**  
**CDS** Combat Direction System. Used here generically for several different systems: Advanced Combat Direction System (carriers), Aegis Command & Decision (cruisers and some destroyers), and older TDSs (Tactical Data Systems) still found on certain ships. Integrates ownship sensor data and tactical data link information, provides real-time situation monitoring, and performs threat evaluation and weapon assignments.
- CEC**  
**GCCS** Cooperative Engagement Capability  
Global Command and Control System. Replacement for WWMCCS.
- JMCIS** Joint Maritime Command Information System. An integration of various Navy command systems, including NTCS-A, OSS, OBU.
- NTCS-A** Navy Tactical Command System Afloat. Integrates contact and threat warning data from external sources with data from the afloat sources and sensors. Supports tactical planning and direction of a battle group electronic warfare assets and C3 countermeasures assets. Supports general battle management functions of senior commanders.
- OBU/OED** Ocean Surveillance Information System (OSIS)  
Baseline Upgrade/ OSIS Evolutionary Development Operations Support System. Shore based version of NTCS-A. Supports Fleet Command Center with tactical picture presentation and theater level battle management.
- OSS**

- Other COM Services** Character Oriented Message services. A variety of character based services (OTCIXS, NAVMACS, etc.) for the exchange of command and control information.
- TADILS** Tactical Digital Information Links. Bit oriented real-time information distribution for real-time command and control. The USN has: Link 4A (air control, maps to TADIL C standard), Link 11 (track data and force orders, TADIL A standard), and Link 16 (jam resistant track data and force orders, TADIL J standard). Both TADIL A and TADIL J provide for multiservice exchange of information.
- TADIXS** Tactical Data Information Exchange Systems. Character oriented messages system for command and control information, such as cruise missile mission updates. Two systems in use: TADIXS A, TADIXS B. Tactical Air Mission Planning System. Mission planning and route analyzer in support of power projection. Includes such capabilities as weapons loadout monitoring, radar prediction, etc.
- TAMPS** Tactical EA-6B Mission Support System. Provides mission planning for airborne electronic countermeasures; accepts postmission information for correlation and display. Interfaces to TAMPS.
- TEAMS** Tomahawk Weapon Control System. TWCS is part of the Tomahawk Weapon System. Provides processing and control of targeting, engagement planning and launch control of the Tomahawk missile. To accomplish this TWCS also must keep a theater ocean surveillance data base and correlates contact reports from several systems. Interfaces to C&D on Aegis Cruisers.
- Twice** Various C2 systems, such as the CDS, use voice circuits to assist in the command and control of assets.
- WWMCCS** World Wide Military Command and Control System.

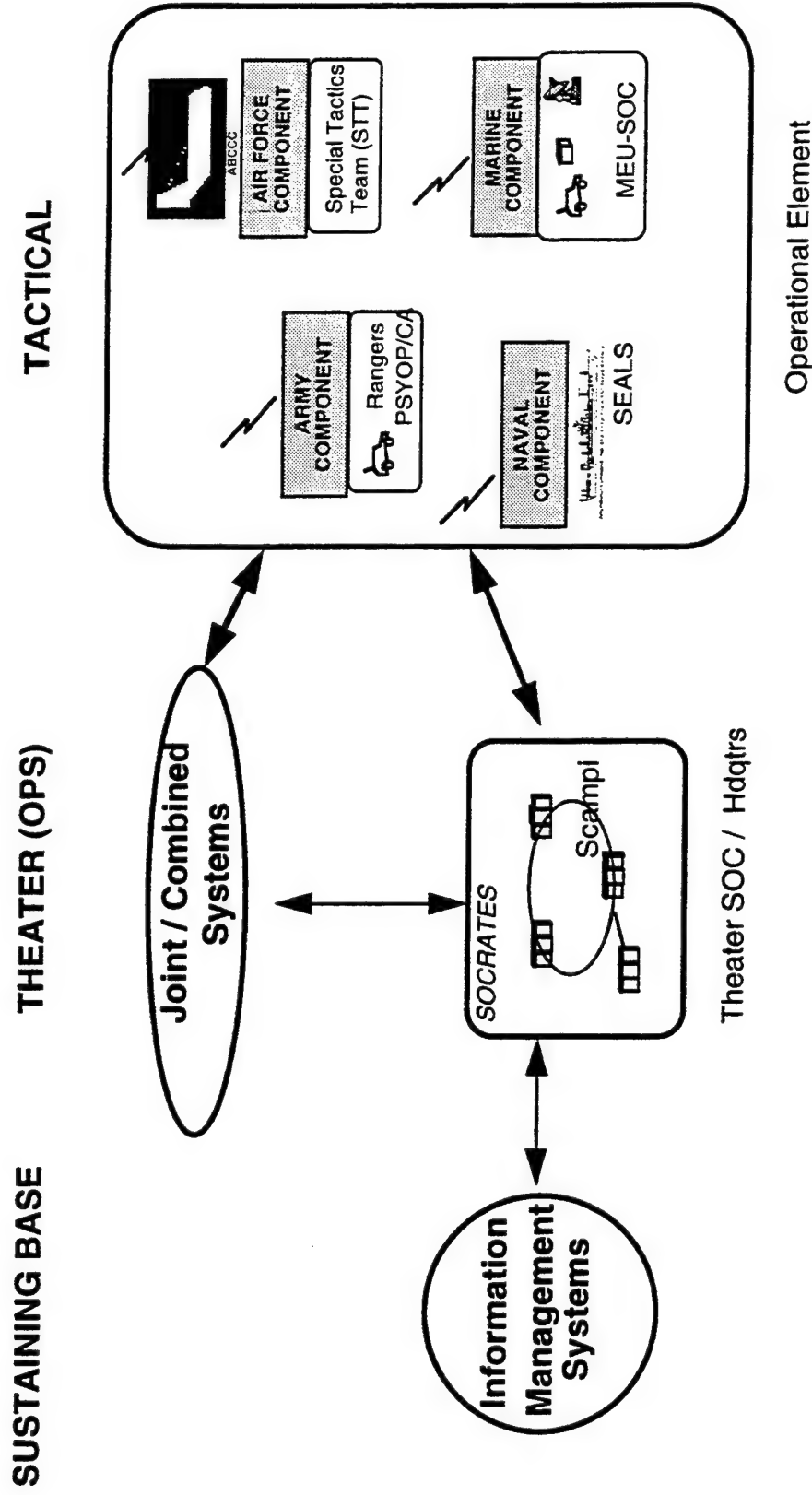
## US NAVY C4I STATUS

- JMCIS core used as the baseline GCCS prototype demonstrated in JWID-94.
- First JMCIS system, integrating Navy command and control capabilities ashore and afloat, installed on the carrier *Eisenhower* in April 1994 for testing. *Eisenhower* was in the Battle Group deployed to Haiti.
- TAC-4 contract for common workstations scheduled to be awarded 1st quarter FY95.
- Navy is providing JMCIS installation support to Marine Corps and Coast Guard.

# US SPECIAL OPERATIONS FORCES

- HIGH LEVEL C4I STRUCTURE
- THEATER COMMAND STRUCTURE
- COMPONENT COMMANDS
- NOMINAL C4I CONNECTIVITY
- STATUS of C4I PROGRAMS

# SOF HIGH LEVEL C4I STRUCTURE





## SOF HIGH LEVELC4I STRUCTURE

This drawing is a generalization of information gathered from various sources. The SOF command structure can be varied, depending upon the mission. The Operational Element refers to those units that conduct special operations, during war and during operations other than war within any theater area of responsibility. The Marine component is composed of specially trained units from the regular Marine forces.

### ABCCC

Airborne Battlefield Command and Control Center.  
Can be used for USAFSOF functions.

### MEU-SOC

Marine Expeditionary Unit - Special Operations Capable. The Marines do not have a unique Special Operations Command like the other Services, but use regular force Marines who are specially trained in special operations.

### PSYOP/CA SCAMPI

Psychological Operations and Civil Affairs  
The name for a USSOCOM closed community communications system for transmitting voice, data, imagery, and facsimile. (It is not an acronym.)

### SEALs SOCRATES

Sea Air Land units. Navy SOF operational element. Special Operations Command, Research, Analysis, and Threat Evaluation System is USSOCOM's baseline Intelligence data handling system.

### SOF STT

Special Operations Force  
Special Tactics Team. Air Force SOF operational element.

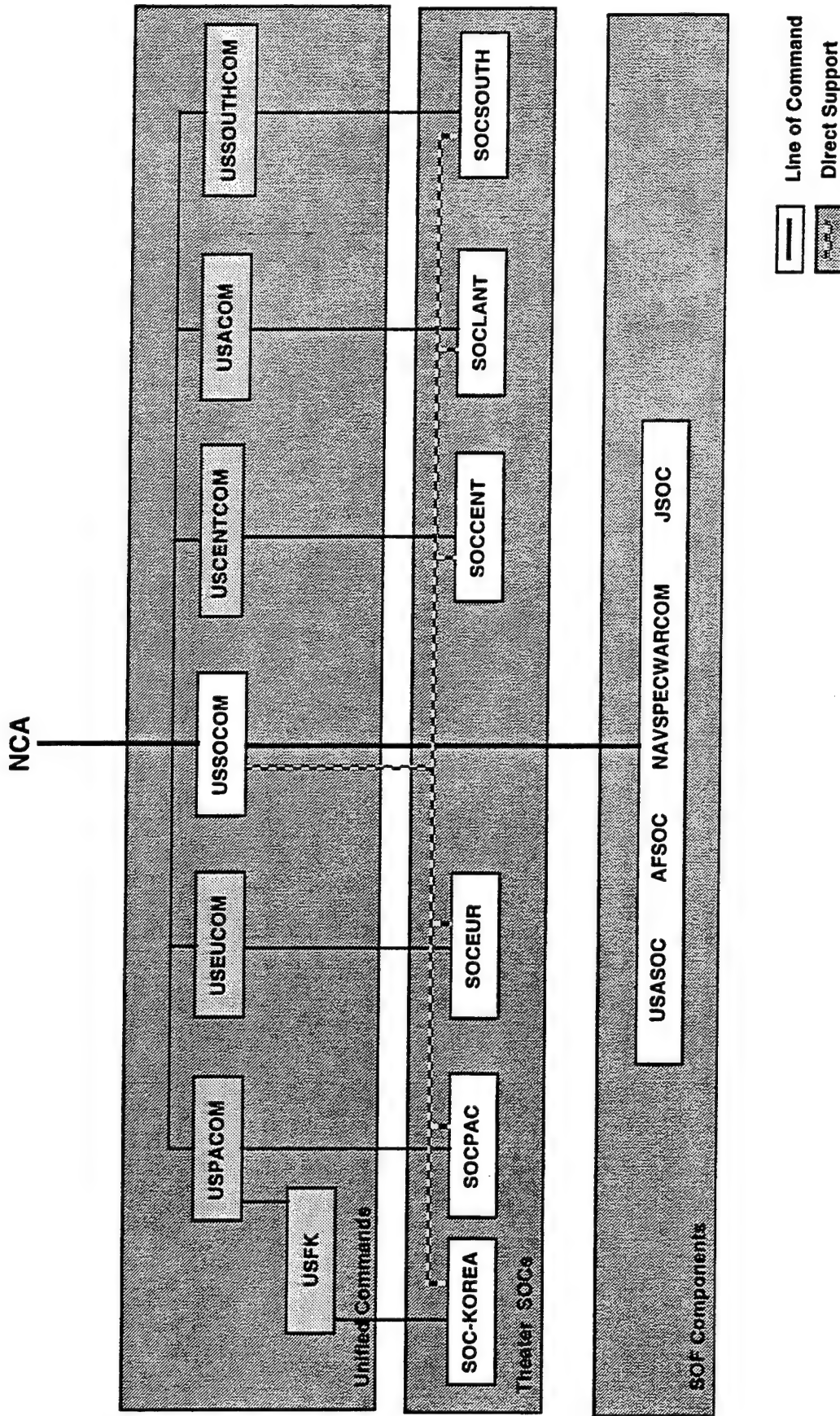
### USASOC

Army Special Operations Command. Located at Ft. Bragg, North Carolina.

### USSOCOM

US Special Operations Command. Located at MacDill Air Force Base in Tampa, Florida.

# SPECIAL OPERATIONS THEATER COMMAND STRUCTURE



## SOF THEATER COMMAND STRUCTURE

This diagram shows the command relationships between the Special Operations Forces and the Unified Commands at the theater level. Traditional missions for the theater SOCs are to plan, prepare for, and conduct special operations as directed by their respective CINCs. Theater SOCs are austere staffed providing the routine support required by the theater CINCs, while additional manning for deployed units needed in emergency situations are handled by the SOF Unified Command.

### AFSOC

Air Force Special Operations Command is the air component of USSOCOM, with command over all USAF special operations forces.

### JSOC

Joint Special Operations Command is a multi-service component of USSOCOM comprising Army, Navy, and Air Force SOF representation. Provides expertise for a standing JSOTF.

### JSOTF

Joint Special Operations Task Force is a special operations organization composed of special operations forces from two or more services under a single commander.

### NAVSPECWARCOM

Naval Special Warfare Command is the Navy component of USSOCOM.

### NCA

National Command Authorities

### SOCCENT

Special Operations Command, Central Command is collocated with USSOCOM and USCENTCOM at MacDill AFB, FL.

### SOCEUR

Special Operations Command, European Command is collocated with CINCEUR in Vaihingen, Germany.

### SOC-Korea

Special Operations Command-Korea is the only theater where U.S. and Host nation SOF are integrated. Located near Seoul, is a standing joint task force controlled by the Commander, U.S. Forces Korea.

### SOCLANT

Special Operations Command, Atlantic Command is located at Norfolk Naval Air Station, Norfolk, VA and is the smallest of the theater SOCs.

### SOC PAC

Special Operations Command, Pacific Command is located at Camp Smith, HI and has the largest area of responsibility.

### SOC SOUTH

Special Operations Command, Southern Command is located at Albrook Air Force Station, Panama.

### USACOM

U.S. Atlantic Command

### USASOC

U.S. Army Special Operations Command operates as both a USSOCOM service component command and as an Army Major Command.

### USCENTCOM

U.S. Central Command

### USEUCOM

U.S. European Command

### USFK

U.S. Forces Korea

### USPACOM

U.S. Pacific Command

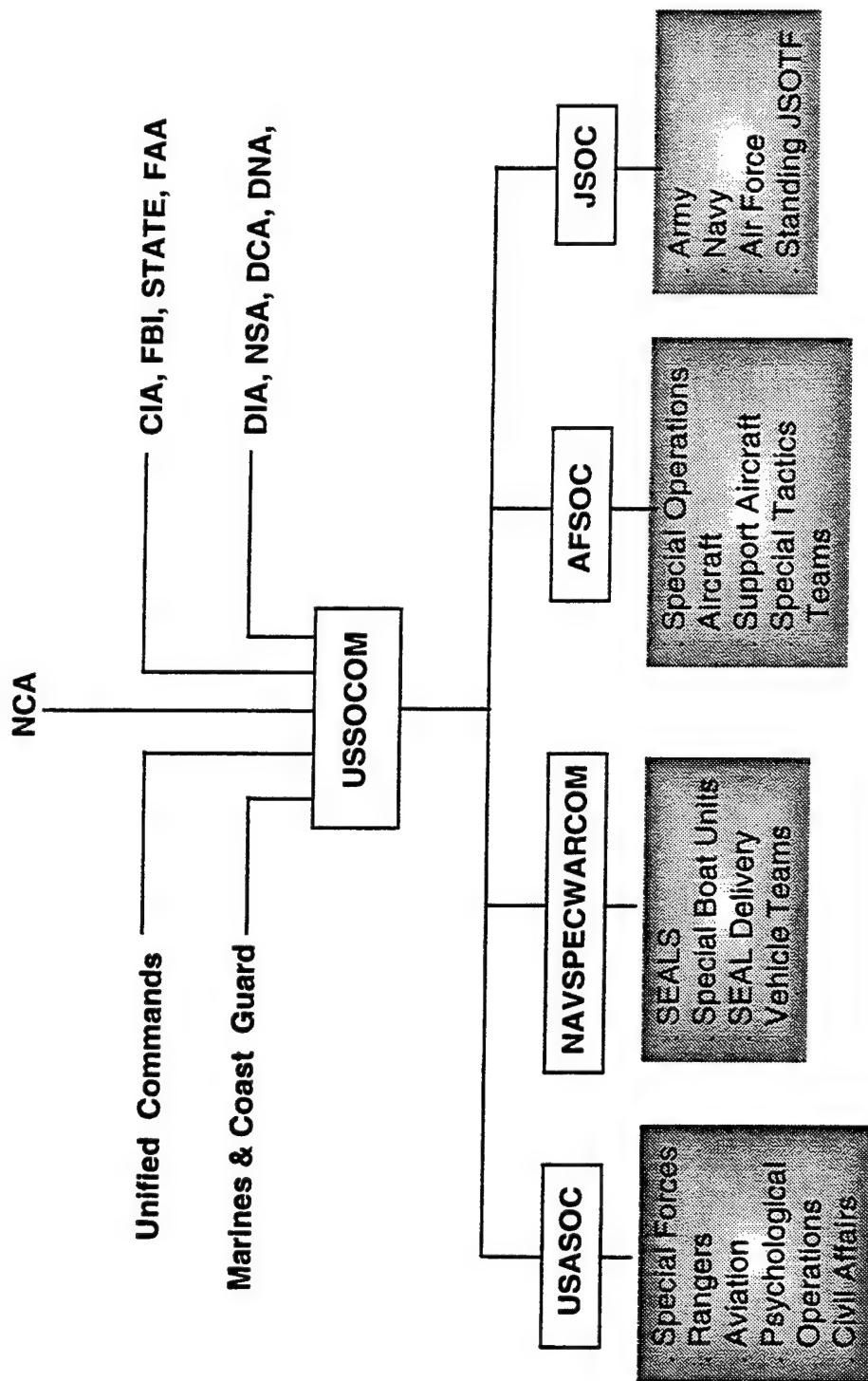
### USSOCOM

U.S. Special Operations Command is one of seven DoD Unified Commands.

### USSOUTHCOM

U.S. Southern Command

## SPECIAL OPERATIONS COMPONENT COMMANDS



## SPECIAL OPERATIONS COMPONENT COMMANDS

All CONUS-based active and reserve SOF units are assigned to USSOCOM. They are assigned to three service component commands (USASOC, NAVSPECWARCOM, and AFSOC) and one joint command (JSOC). Each SOF component command is responsible for the deployment of the operational elements listed in the shaded boxes under it.

USSOCOM performs, for its four subordinate components, a mission similar to that performed by the services for regionally oriented CINCs.

**AFSOC**  
**CIA**  
**DCA**  
**DIA**  
**FAA**  
**FBI**  
**JSOC**  
**JSOTF**

Air Force Special Operations Command  
Central Intelligence Agency  
Defense Communications Agency  
Defense Intelligence Agency  
Federal Aviation Administration  
Federal Bureau of Investigation  
Joint Special Operations Command.  
Located at Fort Bragg, North Carolina.  
Joint Special Operations Task Force is a  
special operations organization composed  
of special operations forces from two or  
more services under a single commander.

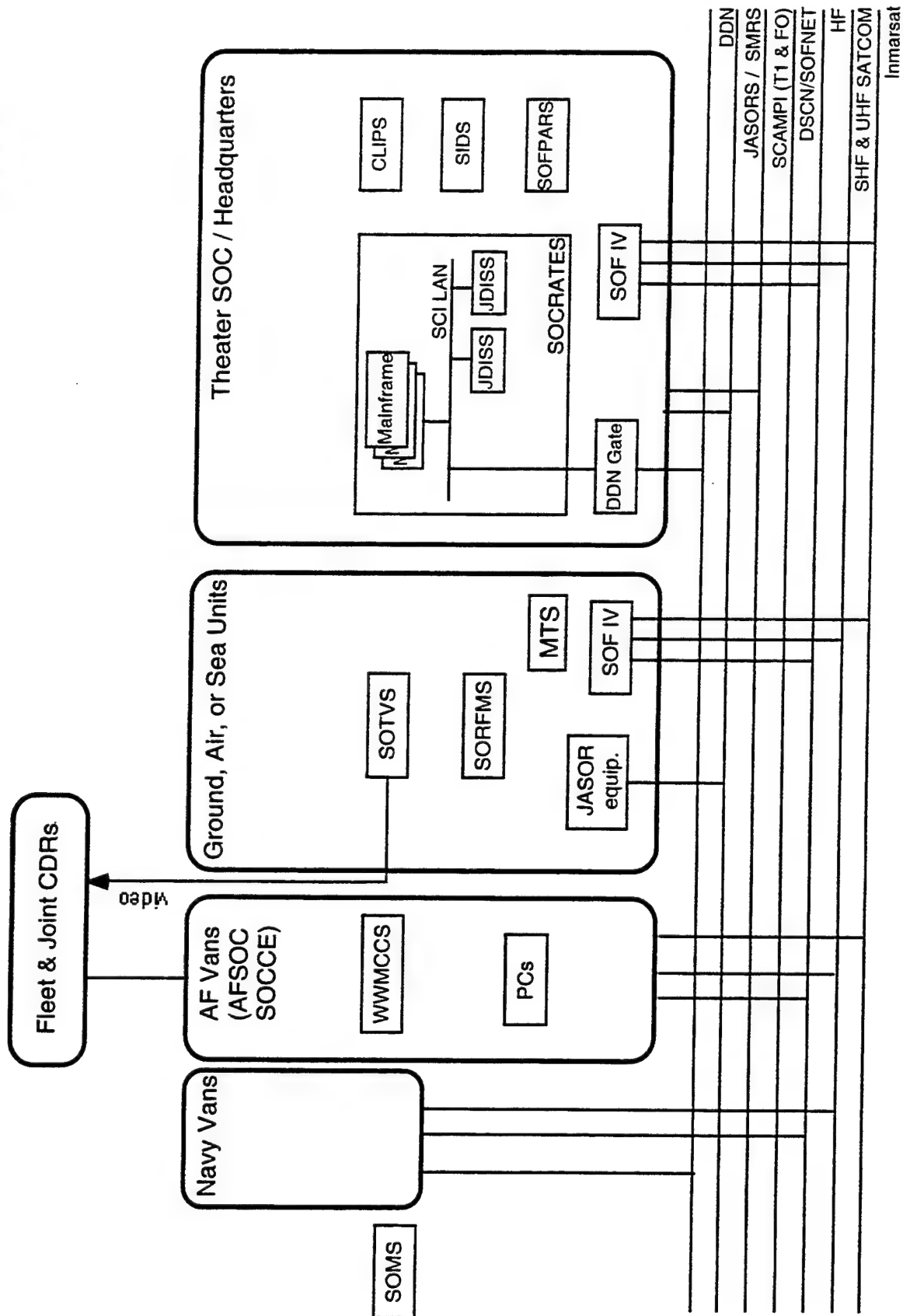
### NAVSPECWARCOM

**NCA**  
**NSA**  
**SEALs**  
**SOF**  
**STATE**  
**Unified Commands**  
**USASOC**

Naval Special Warfare Command.  
Headquartered at Coronado,  
California.  
National Command Authority  
National Security Agency  
Sea Air Land units  
Special Operations Forces  
US State Department  
USCINCPAC, USCINCLANT, etc.  
Army Special Operations Command.  
Located at Ft. Bragg, North Carolina.  
US Special Operations Command.  
Located at MacDill Air Force Base in  
Tampa, Florida.

### USSOCOM

# SOF NOMINAL C4I CONNECTIVITY



## SOF NOMINAL C4I CONNECTIVITY

The above diagram depicts the nominal SOF connectivity currently or in the near future.

<b>AF Vans</b>	A maintenance vehicle for communications, one for each AFSOC SOCCCE.
<b>AFSOC SOCCCE</b>	Air Force Special Operations Command SOC Communications Element.
<b>CLIPS</b>	Communications Link Interface Planning System. An artificial intelligence system to assist SOF planners in designing intra and inter service communications links.
<b>DDN</b>	Defense Data Network. A DDN host is needed primarily for electronic mail.
<b>DDN Gate</b>	Gateway to connect DDN to the SCI LAN at SOC HQ.
<b>DSCN/SOFNET</b>	Distributed Secure Communications Network / Special Operations Forces Network. Provides secure data network in garrison or remote field locations. SOFNET will provide the SOF community with a secure wide area network for voice, video, and data.
<b>FO</b>	Fiber Optic
<b>Ground, Air, or Sea Units</b>	Any of several possible SOF team level units from any of the three services.
<b>HF</b>	High frequency
<b>JASOR equip.</b>	Family of radios that make up JASORS, for sea, air, and land units
<b>JASORS</b>	Joint Advanced Special Operations Radio System. Provides ground, airborne, and seaborne operational elements with a low probability of intercept communications capability.
<b>JDISS</b>	Joint Defense Intelligence Support Services workstation allows analysts to access SOF unique and national intelligence data bases.
<b>INMARSAT</b>	International Maritime Satellite Organization
<b>MTS</b>	Man-Transportable SOCRATES
<b>Navy Vans</b>	Intelligence and communications vans to support NSWTG, or C3 vehicles for NSWTU
<b>PCs</b>	Personal computers

### SCAMPI

USSOCOM C3 transmission system. A closed community of communications nodes for C3I between USSOCOM and its components and other government agencies. Uses leased fiber optic and T1 lines.

### SHF & UHF SATCOM

Super high frequency and ultra high frequency satellite communications

### SIDS

Secondary Imagery Dissemination System

### SMRS

Special Mission Radio System. A global SOF network replacing the JASORS program that was cancelled. Initial development will be for HF radios, HF radio base stations, and hand-held digital message entry/control devices.

### SOCRATES

Special Operations Command Research, Analysis and Threat Evaluation System. Provides automated intelligence and imagery support to USSOCOM and USCENCOM, and projected for other units.

### SOF IV

Special Operations Forces Intelligence Vehicle

### SOFPARS

Special Operations Forces Planning and Rehearsal System. Computer based planning and rehearsal system for air, ground, and maritime elements.

### SOMS

Special Operations Media System. A series of multiband / multichannel radio and television transmitters arranged in modular configurations. Capable of broadcasting PSYOPS products to worldwide target audiences.

### SORFMS

Special Operations Radio Frequency Management System. A small stand-alone system for real-time, HF transmission, propagation, and forecasting.

### SOTVS

Special Operations Tactical Video System. Imagery system (hand-held still or camcorder.)

### T1

High capacity telecommunication line

**Theatre SOC/Headquarters** Refers primarily to the USSOCOM at MacDill AFB, or unified command locations.

### WWMCCS

Worldwide Military Command Control System



## US SPECIAL OPERATIONS FORCES STATUS

- The "Crashout" program is a high priority initiative for the acquisition and distribution of C2 communications equipment for theater SOCs during 1993 and 1994.
- The Joint Advanced Special Operations Radio System (JASORS), a replacement program for SOF tactical radios and base stations, was cancelled and will be replaced by the Special Mission Radio System (SMRS) to provide communications for a global SOF network. SMRS will extend the capabilities of the AN/PRC-137 HF radio system developed by the Navy.
- The first prototype of the SOF Intelligence Vehicle (IV) was introduced in early 1994 for testing. The SOF IV is a deployable van equipped with multiple means of communication to support the exchange of intelligence data to deployed SOF elements.



# **COMPARISONS OF SERVICES C4I SYSTEMS AND ADP EFFORTS**

- **C2 ADP EFFORTS BY SERVICE COMPONENT**
- **COMPARABLE C2 SYSTEMS**

## C2 ADP EFFORTS BY SERVICE COMPONENT

### WORKSTATION CONTRACT

### SOFTWARE

### NOTES

ARMY	AIR FORCE	MARINE	NAVY
CHS-1 --> CHS-2	AFCAC --> TBM Std?	MCHS --> TAC-4	TAC-3 --> TAC-4
AWIS/CSSCS/ STACCS/CASS Core -->AGCCS ATCCS-->ABCS	AFWIS/CTAPS/ TBM Core --> AFGCCS	MTACCS/MCASS/ UB Core --> JMCIS	NWSS/OSS/ NTCS-A/UB Core --> JMCIS
Uses ruggedized HP processors and architecture CHS-2 contract awarded Sept 94 to GTE/SUN	Currently use SPARC platforms Follow-on to AFCAC expected in two years	Currently moving to SPARC MCHSA - Server MCHSB - Portable MCHSC - ArmyLCU MCHSD - Pocket	Currently use SUN-4 and HP TAC-4 contract award expected by Q1 1995

## C2 ADP EFFORTS BY SERVICE COMPONENT

Each of the services have efforts for procuring new workstations and common software for migrating to the GCCS common operating environment to meet the objectives of C4ITW.

**ADP** Automatic Data Processing  
**AFCAC** Air Force Computer Acquisition Contract  
**AFGCCS** Air Force Global Command and Control System will serve as the Air Force's link to the GCCS. It will integrate the Air Force WWMCCS Information System (AFWIS), CTAPS, and the Theater Battle Management (TBM) core software.  
**AGCCS** Army Global Command and Control System will serve as the Army's link to the GCCS. It will integrate the Army WWMCCS Information System (AWIS), the Standard Theater Army Command and Control System (STACCS), the Combat Service Support Control System (CSSCS), and the Common Army Tactical Command & Control System (ATCCS) Support Software (CASS).  
**CHS** Army Common Hardware Software effort.  
**CTAPS** Contingency Theater Air Control System (TACS) Automated Planning System  
**GCCS** Global Command and Control System will replace the Defense Department's aging Worldwide Military Command and Control System (WMCCS).  
**HP** Hewlett Packard computer vendor

### JMCIS

Joint Maritime Command Information System is the Navy's link to the GCCS and will serve as the core for the Initial GCCS prototype. JMCIS integrates the Navy WWMCCS Software Standardization (NWSS), Navy Tactical Command System- Afloat (NTCSA), the Operational Support System (OSS), and the Unified Build (UB) core software.

### LCU

Lightweight Computer Unit

### MCASS

Marine Common Application Support Software

### MCHS

Marine Common Hardware Suite

### MTACCS

Marine Tactical Command and Control System

### TAC

Tactical Advanced Computer. Fourth version of this Navy workstation buy should be available by the end of FY94.

### TBM

Theater Battle Management, an Air Force program.

# COMPARABLE C2 SYSTEMS

FUNCTIONAL AREA	ARMY	AIR FORCE	MARINE	NAVY	SOF
GCCS Interface	AGCCS	CTAPS	MCASS	JMCIS	SOCRATES
Intelligence	ASAS	CIS	IAS	NIPS	DITDS
Air Ops (various)	FAADC2I	ADS	ATACC	TAMPS/CDS	-----
Fire Support	AFATDS	JMEM	MAFATDS	TWCS/CDS	-----
Maneuver Control	MCS	RAAP	TCO	JMCIS/CDS	-----
Logistics Support	CSSCS	LOGMOD	MCSSC2	NTCSS	
WWMCCS Interface	AWIS	STOMPS	MAGTF II	NWSS	

## COMPARABLE C2 SYSTEMS

This spreadsheet attempts to show the major C2 system components developed by each of the Services to provide support for the various functional areas of C2. When GCCS replaces the existing WWMCCS system, the WWMCS interface software will be replaced by the GCCS interfaces. **The system components listed in each of the functional areas represent only the major component and in many cases are supported by many other systems not listed.**

<b>ADS</b>	Airspace Deconfliction System (Airspace planning; produce Airspace Control Order)
<b>AFATDS</b>	Advanced Field Artillery Tactical Data System
<b>AGCCS</b>	Army Global Command and Control System
<b>ASAS</b>	All Source Analysis System
<b>ATACC</b>	Advanced Tactical Air Command Central
<b>AWIS</b>	Army Worldwide Information System is the Army's current interface to WWMCCS.
<b>CDS</b>	Combat Direction System. Various configurations, including Aegls C&D, ACDS, ATDS, NTDS, etc.
<b>CIS</b>	Combat Intelligence System(ICM+RAAP+JMEM+Sentinel Byte)
<b>CSSCS</b>	Combat Service Support Control System
<b>CTAPS</b>	Contingency Theater Automated Planning System
<b>DITDS</b>	Defense Intelligence Threat Data System
<b>FAADC2I</b>	Forward Area Air Defense Command, Control, and Intelligence
<b>IAS</b>	Intelligence Analysis System
<b>ICM</b>	Intelligence Correlation Module (Orders of Battle correlation and management)

<b>JMCIS</b>	Joint Maritime Command Information System (Programmatically includes NTCSS and NIPS also.)
<b>JMEM</b>	Joint Munitions Effectiveness Manual (Weaponengineering)
<b>LOGMOD</b>	Logistics Module
<b>MAFATDS</b>	Multi-Service Advanced Field Artillery Tactical Data System
<b>MAGTF II</b>	A system that allows MAGTF planners to select and tailor MAGTF force structures, estimate sustainment, and estimate airlift requirements for plan feasibility analysis. It serves as the bridge between the MAGTF logistics family of systems and the Joint Operation Planning and Execution System (JOPES).
<b>MCASS</b>	MAGTF C4I Common Application Support Software
<b>MCS</b>	Maneuver Control System
<b>MCSSC2</b>	Marine Combat Service Support Command and Control
<b>MDSS</b>	MAGTF Deployment Support System
<b>NIPS</b>	NTCS-A Intelligence Processing Services
<b>NTCSS</b>	Naval Tactical Command Support System
<b>NWSS</b>	Navy WWMCCS Software Standardization
<b>RAAP</b>	Rapid Application of Air Power (Targeting)
<b>STOMPS</b>	Standalone Operational Message Processing System (AUTODIN access)
<b>TAMPS</b>	Tactical Air Mission Planning System



## ACRONYMS

This appendix lists many of the acronyms used in this document, and which the reader may find useful while reading other C4I literature.

<b>2W/4W</b>	Two- or four- wire local telecommunications
<b>5D Server</b>	Demand Driven Direct Digital Dissemination; imagery system.
<b>ABCCC</b>	Airborne Battlefield Command and Control Center. This key airborne center is highly connected to other Air Component elements, though it has no sensing capabilities of its own. Houses tactical displays and extensive communications capabilities. Allows for airspace management of wider scope than FACP. Can be used for USAFSOF functions.
<b>ABCS</b>	Army Battle Command System; ATCCS is transitioning into ABCS.
<b>ACE</b>	(1) Allied Command Europe  (2) Aviation Combat Element. Ranges in size from a helo squadron to one or more aircraft wings; it may include offensive air support, assault support, anti-air warfare, electronic warfare, and C2 organizations
<b>ACUS</b>	Area Common User System is a collection of Mobile Subscriber Equipment (MSE) that provides voice and data communications for Army Corps and their divisions, capable of handling 5 division corps in an area of 37,000 square kilometers.
<b>ADDS</b>	Army Data Distribution System is a family of secure, jam-resistant, near real-time, data communications, and position location reporting, navigation, and identification systems. It provides a near real-time data comm capability to echelon above corps as well as below. It includes EPLRS and JTIDS.
<b>ADP</b>	Automatic Data Processing
<b>ADS</b>	Airspace Deconfliction System (Airspace planning; produce Airspace Control Order)
<b>AFAC</b>	Airborne Forward Air Controller. Manages close air support, controls attacks, and assesses damage.
<b>AFATDS</b>	Advanced Field Artillery Tactical Data System. Provides automated fire support of close, rear and deep operations. It is composed of a common suite of hardware and software employed in varying configurations at different operational facilities interconnected by tactical communications. Provides support at any level of command.



<b>AFCAC</b>	Air Force Computer Acquisition Contract
<b>AFGCCS</b>	Air Force Global Command and Control System will serve as the Air Forces link to the GCCS. It will integrate the Air Force WWMCCS Information System (AFWIS), CTAPS, and the Theater Battle Management (TBM) core software.
<b>AFLANT</b>	US Air Force, Atlantic. Synonymous with parts of the Air Combat Command (ACC) at Langley AFB.
<b>AFMSS</b>	Air Force Mission Support System (Aircrew mission planning used at squadron level)
<b>AFORMS</b>	Air Force Operational Resource Management System
<b>AFSOC</b>	Air Force Special Operations Command is the air component of USSOCOM, with command over all USAF special operations forces.
<b>AFSOC SOCCE</b>	Air Force Special Operations Command SOC Communications Element
<b>AF Vans</b>	A maintenance vehicle for communications, one for each AFSOC SOCCE.
<b>AGCCS</b>	Army Global Command and Control System will serve as the Army's link to the GCCS. Merges the strategic and theater components of the Army as an initial step in the migration to the Army Battle Command System. It will integrate the Army WWMCCS Information System (AWIS), the Standard Theater Army Command and Control System (STACCS), the Combat Service Support Control System (CSSCS), and the Common Army Tactical Command & Control System (ATCCS) Support Software (CASS).
<b>AIC</b>	Atlantic Intelligence Center
<b>AIC LAN</b>	AIC network at the secret level; one of many AIC networks.
<b>AIS LAN</b>	Administrative data system network at PACFLT
<b>ALCC</b>	Air Lift Control Center
<b>ALCES</b>	Air Lift Control Element
<b>ALCOM</b>	Alaskan Command
<b>AMHS</b>	Automated Message Handling System
<b>AN/PRC-77</b>	A radio in the CNR family. Replaced by SINCGARS.
<b>AN/VRC-12</b>	A small unit radio in the CNR family. Replaced by SINCGARS.
<b>AOC</b>	Air Operations Center. Command center for the commander of the air component. From where daily Air Tasking Orders (ATOs) are generated.
<b>APS</b>	Advanced Planning System (ATO planning)
<b>ARLANT</b>	US Army Atlantic. Synonymous with FORSCOM. Located in Georgia.



<b>ARM</b>	Air Request Manager
<b>ARPAC</b>	US Army, Pacific
<b>ASAS</b>	All Source Analysis System. Automated tactical intelligence system for Corps, Division, and Echelon Above Corps. Provides all source intelligence fusion network used to generate understanding of enemy deployments, capabilities, vulnerabilities, and potential courses of action. Procurement divided into three blocks. Block II will include conversion to Army Common Hardware/Software and will reach milestone III in 1999.
<b>ASOC</b>	Air Support Operations Center. Air Force unit collocates with Army ground based mobile shelters. Provides control of Army units, manages TACPs, and coordinates with Army operations.
<b>ASW(M or CS)</b>	Anti-Submarine Warfare Module (for carriers) or Anti-Submarine Warfare Combat System (for other combatants.) Supports the Anti-Submarine warfare mission of the ship. Includes mission planning, tactical situation monitoring, and data correlation. ASWCS also provides weapons (e.g., torpedo) control.
<b>ASWOC</b>	Anti-submarine Warfare Operations Center
<b>ATACC</b>	Advanced Tactical Air Command Central provides the tactical air commander with the decision aids needed to support planning and directing of overall air support.
<b>ATACS</b>	Army Tactical Area Communications System, which is the existing component ACUS. Eventually superseded by MSE.
<b>ATCCS</b>	Army Tactical Command and Control System; it is part of the Army Command and Control System (ACCS) concerned primarily with employment. It will soon be called the Army Battle Command System (ABCS).
<b>ATEAMS</b>	Advanced TEAMS
<b>AUTODIN</b>	Automatic Digital Network
<b>AWACS</b>	Airborne Warning and Control System (E3-A). Wide area air surveillance and control of defense, including airspace management. Can cue interceptors on air targets. Some AWACS have been modified to detect ocean surface targets to support maritime surveillance missions.
<b>AWDS</b>	Automated Weather Dissemination System
<b>AWIS</b>	Army Worldwide Information System. The Army element of WWMCCS. It will be overtaken by the Army GCCS (a migration of AWIS, STACCS, and CSSCS-EAC into one system).
<b>Battle Group</b>	Basic unit of a Naval force. Traditionally composed of one CV, several combatants, and support.
<b>BCS</b>	Battery Computer System





<b>BDS</b>	Briefing Display System
<b>BRCS</b>	Base Recovery after attack Comm System
<b>C2IPS</b>	Command and Control Information Processing System; used from AOC down to wing level.
<b>CAFMS</b>	Computer Assisted Force Management System (ATO management)
<b>CAFWSP</b>	Combat Air Forces Weather Software Package; a CTAPS integrated application to provide both current and forecast weather in support of target nomination, ATO planning, and execution.
<b>CAG</b>	Civil Affairs Group
<b>CAMS</b>	Consolidated Aircraft Maintenance System
<b>CAOC</b>	Combined Air Operations Center
<b>CARS/JSIPS</b>	Contingency Airborne Reconnaissance System. Provides SIGINT, imagery, and target data. Also referred to (in future architectures) as the Joint Services Imagery Processing System (JSIPS).
<b>CAS-B</b>	Combat Ammunition System - Base
<b>CASES</b>	Capabilities Assessment, Simulation, and Evaluation System
<b>CATF</b>	Commander, Amphibious Task Force
<b>CATIS</b>	Computer Aided Tactical Information System
<b>CCC</b>	CINC Command Center is the shore command center for each theater of operations.
<b>CDS</b>	Combat Direction System. Used here generically for several different systems: Advanced Combat Direction System (carriers), Aegis Command & Decision (cruisers and some destroyers), and older TDSs (Tactical Data Systems) still found on certain ships. Integrates ownship sensor data and tactical data link information, provides real-time situation monitoring, and performs threat evaluation and weapon assignments.
<b>CE</b>	Command Element. Provides single headquarters for command and coordination of ground, air, and combat service support.
<b>CEC</b>	Cooperative Engagement Capability
<b>CFC</b>	Combined Forces Command
<b>CG</b>	(1) Guided Missile Cruiser (2) Coast Guard
<b>CHS</b>	Army Common Hardware Software effort.



<b>CHS2</b>	Common Hardware Software 2. The standard computing resources provided for ATCCS component systems. CHS2 will be first available in FY95.
<b>CIA</b>	Central Intelligence Agency
<b>CIC</b>	Combat Intelligence Center (Marines)
<b>CIDSS</b>	COMPACAF Integrated Decision Support System. The umbrella engineering effort coordinating the support systems at PACAF.
<b>CIECS LAN</b>	CINCLANTFLT Internetwork Electronic Communication System
<b>CINC</b>	Commander in Chief
<b>CINCCENT</b>	Commander in Chief, Central Command
<b>CINCLANTFLT</b>	Commander in Chief, Atlantic Fleet
<b>CINCPACFLT</b>	Commander in Chief, Pacific Fleet
<b>CINCS WAN</b>	Connects CINCPACFLT, CINCLANTFLT, and CNO with video and admin support.
<b>CINCUSNAVEUR</b>	Commander In Chief, US Navy Europe. The 6th fleet is stationed in the Mediterranean.
<b>CIS</b>	Combat Intelligence System (ICM+RAAP+JMEM+Sentinel Byte); used at AOC down to squadron.
<b>CJTF</b>	Commander, Joint Task Force
<b>CJTF-4</b>	Commander, Joint Task Force 4 (a standing JTF).
<b>CLF</b>	Commander of the Landing Force in amphibious warfare
<b>CLIPS</b>	Communications Link Interface Planning System. An artificial intelligence system to assist SOF planners in designing intra and inter service communications links.
<b>CMD CTR</b>	Command Center
<b>CMSA/TMPC</b>	Cruise Missile Support Activity and Theatre Mission Planning Center
<b>CNN</b>	Cable News Network
<b>CNR</b>	Combat Net Radio is a family of radios that provide for C2 from squad up through corps; mainly voice, there is limited data capability, and it will completely replace current single channel radios by 1995. CNR consists of five types of units, including SINCGARS and IHFR.
<b>COC</b>	Combat Operations Center
<b>COMMINEWARCOM</b>	Commander, Mine Warfare Command



<b>COMMZ</b>	Communications Zone; rear part of theater of operations (behind but continuous with the CZ) that contains the lines of communications, supply, and evacuation, and other agencies for support and maintenance.
<b>CP</b>	Command Post
<b>CP LAN</b>	Command Post Local Area Network
<b>CRC</b>	Control & Reporting Center
<b>CRP</b>	Control & Reporting Post
<b>CSP</b>	Communication Support Processor
<b>CSSCS</b>	Combat Service Support Control System. Provides automated support to control of Army CSS, allowing state of readiness to be assessed and courses of action to be war-gamed based upon CSS status.
<b>CSSCS-EAC</b>	Combat Service Support Control System for Echelons Above Corps
<b>CSSE</b>	Combat Service Support Element is tailored to provide logistics support, including supply, maintenance, engineering, etc., services.
<b>CSSOC</b>	Combat Service Support Operations Center. The CSSOC shown is for the Force Service Support Group Headquarters.
<b>CTAPS</b>	Contingency Theater Air Control System (TACS) Automated Planning System. Automates the Air Force Air Control System. The CTAPS architecture is based on an evolutionary development and procurement philosophy making maximum use of commercial hardware and software technology.
<b>CUS</b>	Commander Undersea Surveillance (Formed from integration of CUSP and CUSL. With the disestablishment of COMUNDERSEASURVPAC, effective Sept. 30, 1994, CUSL in the Atlantic administratively became the single Undersea Surveillance Command. Operational control for CUSP remains with the Commander, ASW Force, US Pacific Fleet, and CINC, US Atlantic Fleet, respectively.)
<b>CV</b>	Aircraft Carrier
<b>CZ</b>	Combat Zone; that area required by combat forces for the conduct of operations (Army).
<b>DAMPS</b>	Desktop Automated Message Processing System. PACFLT is modernizing its networking and message handling, and as of the date of this document, the diagram shown above is one possible configuration.
<b>DART</b>	Dynamic Analysis and Replanning Tool
<b>DASC</b>	Direct Air Support Center. An expandable 8x8x20 shelter used to coordinate close air support, assault support, and air recon. Current DASC replaced by an improved version (IDASC) with IOC of 93.



<b>DCA</b>	Defense Communications Agency
<b>DDG</b>	Guided Missile Destroyer
<b>DDN</b>	Defense Data Network
<b>DDN Gate</b>	Gateway to connect to the DDN
<b>DIA</b>	Defense Intelligence Agency
<b>DITDS</b>	Defense Intelligence Threat Data System
<b>DSCN/SOFNET</b>	Distributed Secure Communications Network/Special Operations Forces Network. Provides secure data network in garrison or remote field locations. SOFNET will provide the SOF community with a secure wide area network for voice, video, and data.
<b>DSN</b>	Defense Switched Network
<b>DSNET</b>	Defense Secure Network. DSNET 1 is the secret segment, while DSNET 3 is the SCI segment.
<b>EAC</b>	Echelon Above Corps (Army command level)
<b>EDSS</b>	EUCOM Decision Support System; a collection of C2 systems based around UCCS that is used by EUCOM commanders.
<b>EPLRS</b>	Enhanced Position Location Reporting System. Army's version of the Marines' PLRS system. Provides secure jam-resistant near real-time data communications support for ATCCS. It is a time division multiple access system using frequency hopping spread spectrum waveform in UHF. Additionally provides position location and reporting to users and their headquarters (if equipped). IOC is 1997.
<b>ETCC</b>	European Theater Command Center; the command center complex for USEUCOM. Currently being remodeled and will soon be operational.
<b>EUCOM SAN</b>	European Command Secret Area Network
<b>FAA</b>	Federal Aviation Administration
<b>FAADC3I</b>	Forward Area Air Defense Command, Control, Communications, and Intelligence. Integrates, processes, and distributes aerial target information gathered from ground based and other sensors, Identifications Friend or Foe, Positive Hostile Identification, and Non-cooperative Target Recognition devices. It will interoperate with joint and allied High-to-Medium Altitude Air Defense C2 systems.
<b>FACP</b>	Forward Air Controller Post. Provides air surveillance and manages local air space.
<b>FBI</b>	Federal Bureau of Investigation



<b>FCC</b>	Fleet Command Center
<b>FCTC</b>	Fleet Combat Training Center
<b>FDC</b>	Fire Direction Center
<b>FIU</b>	Force Imagery Interpretation Unit
<b>FIST</b>	Fleet Imagery Support Terminal
<b>FMOCC</b>	Fleet Mobile Operations Command Center. Now also called the Joint Mobile Operations Command Center (JMOCC).
<b>FO</b>	Fiber Optic
<b>FOSIF</b>	Fleet Ocean Surveillance Information Facility
<b>FRG</b>	Federal Republic of Germany
<b>FSCC</b>	Fire Support Coordination Center
<b>FSSG</b>	Force Service Support Group
<b>FULCRUM</b>	Not an acronym - a mapping system
<b>GateGuard</b>	Message processor
<b>GCCS</b>	Global Command and Control System is the C2 system for Joint Services. It will replace the Defense Department's aging Worldwide Military Command and Control System (WMCCS).
<b>GCE</b>	Ground Combat Element. Ranges in size from an infantry battalion to one or more divisions. May include artillery, tank, etc. orgs.
<b>GFCP</b>	General-purpose Front-end Communications Processor. Japan TCCS networking can be extended to Japan for USFJ.
<b>HF</b>	High Frequency
<b>HFR</b>	High Frequency Radios (now Improved HFR) a component of CNR
<b>HQ</b>	Headquarters
<b>IAS</b>	Intelligence Analysis System
<b>IAS W/S</b>	IAS Workstation version
<b>ICM</b>	Intelligence Correlation Module (Orders of Battle correlation and management)



<b>IDASC</b>	Improved Direct Air Support Central
<b>IDEX</b>	Imagery Digital Exploitation
<b>IHFR</b>	Improved High Frequency Radio
<b>IMOM</b>	Improved Many-On-Many (EC analysis)
<b>INMARSAT</b>	International Maritime Satellite Organization
<b>J1, J2, J3, J6</b>	Staff components of a unified command
<b>JASMIN</b>	Joint Analysis System for Military Intelligence
<b>JASORS</b>	Joint Advanced Special Operations Radio System. Provides ground, airborne, and seaborne operational elements with a low probability of intercept communications capability.
<b>JDISS</b>	Joint Defense Intelligence Support System; allows analysts to access national intelligence data bases.
<b>JDISS-E</b>	Joint Deployable Intelligence Support System - Europe. EUCOM unique version of JDISS. JDISS-E also known as EISS.
<b>JFACC</b>	Joint Force Air Component Commander
<b>JFACC HQ</b>	Joint Force Air Component Commander Headquarters
<b>JFAST</b>	Joint Flow and Analysis System for Transportation
<b>JFROM</b>	Joint Force Reception and Onward Movement
<b>JIC</b>	Joint Intelligence Center (for PACOM)
<b>JMCIS</b>	Joint Maritime Command Information System is the Navy's evolutionary command and control system, one of the candidate C2 systems being considered as the basis for the Global Command and Control System planned for joint use. (Programmatically includes NTCSS and NIPS also.) JMCIS integrates the Navy WWMCCS Software Standardization (NWSS), Navy Tactical Command System- Afloat (NTCSA), the Operational Support System (OSS), and the Unified Build (UB) core software.
<b>JMEM</b>	Joint Munitions Effectiveness Manual (Weaponneering)
<b>JOC</b>	Joint Operations Center (ACOM)
<b>JOC LAN</b>	The major network in the JOC connecting OSS, JOTS, GCCS, and other systems
<b>JOTS</b>	Joint Operational Tactical System; absorbed by JMCIS
<b>JSOC</b>	Joint Special Operations Command is a multi-service component of USSOCOM comprising Army, Navy, and Air Force SOF representation. Provides expertise for a standing JSOTF.



<b>JSOTF</b>	Joint Special Operations Task Force is a special operations organization composed of special operations forces from two or more services under a single commander.
<b>JSTARS</b>	Joint Surveillance Target Attack Radar System (E-8). Provides target location updates of ground vehicles, to the Army, using a synthetic aperture radar (SAR). Also has capability to conduct onboard analysis and display of SAR images to support near real-time target detection, identification, and reporting to attack aircraft within line of sight of JSTARS.
<b>JTF</b>	Joint Task Force
<b>JTF-5</b>	A standing joint task force (for interdiction, etc.)
<b>JTIDS</b>	Joint Tactical Information Distribution System that supports TADIL-J
<b>JVIDS</b>	Joint Visually Integrated Display System
<b>LAAD</b>	Low Altitude Air Defense
<b>LAAM</b>	Light AntiAircraft Missile
<b>LAN</b>	Local Area Network
<b>Landline</b>	2W or 4W data and voice
<b>LATIN</b>	LANTCOM Theater Intelligence Network
<b>LCU</b>	Lightweight Computer Unit
<b>LDMX</b>	Local Digital Message eXchange
<b>LHx</b>	Amphibious ships (LHD or LHA), the principal C2 platform for amphibious operations
<b>LIMS</b>	LANTCOM Internettted Message System
<b>LINK 11</b>	Tactical data link, mostly for targets and training.
<b>LINK 14</b>	Tactical data link, primarily for air traffic.
<b>LOCE</b>	Linked Operations/Intelligence Centers Europe
<b>LOGMOD</b>	Logistics Module
<b>LOGSAFE</b>	Logistics Sustainability Analysis and Feasibility Estimator
<b>MACG</b>	Marine Air Control Group
<b>MAFATDS</b>	Multi-Service Advanced Field Artillery Tactical Data Systme



<b>MAG</b>	Marine Aircraft Group
<b>MAGTF</b>	Marine Air-Ground Task Force. Combined armed forces consisting of ground, air, and combat service support forces, under the direction and control of a single commander. It is the overall conceptual framework for forming forces for combat operations.
<b>MAGTF II</b>	A system that allows MAGTF planners to select and tailor MAGTF force structures, estimate sustainment, and estimate airlift requirements for plan feasibility analysis. It serves as the bridge between the MAGTF logistics family of systems and the Joint Operation Planning and Execution System (JOPES).
<b>MAOC</b>	Mobile Air Operations Center. (The AOC may be integrated with the Navy systems on a carrier.)
<b>MARFOREUR</b>	Marine Forces Europe. A new name for FMFEUR; very limited resources in Europe.
<b>MARFORLANT</b>	Marine Forces, Atlantic. Headquarters has moved to Camp LeJeune, with liaison in Norfolk.
<b>MARFORPAC</b>	Marine Forces, Pacific
<b>MATRIX</b>	Multi-source Automated Target Recognition with Interactive Exploitation
<b>MAXI</b>	Modular Architecture for the eXchange of Intelligence
<b>MCASS</b>	Marine Common Application Support Software
<b>MCHS</b>	Marine Common Hardware Suite
<b>MCS</b>	Maneuver Control System. Supports operations planning and control for any part of the Corps and below Army Command and Control System. Provides information on own forces, enemy forces, and battlefield characteristics to commander and staff. Displays data generated within air/land combat environment. MCS will transition to common hardware/software in 1994 and Final Operational Capability (FOC) will be 1995.
<b>MCSSC2</b>	Marine Combat Service Support Command and Control
<b>MDSS</b>	MAGTF Deployment Support System
<b>MDSS II</b>	MAGTF Deployment Support System II enables Commanders at various echelons of a MAGTF to build and maintain a data base that contains force and equipment data reflecting how a MAGTF is configured for deployment.
<b>MDT</b>	Message Distribution Terminal
<b>MEB</b>	Marine Expeditionary Brigade. An assault echelon embarked aboard approximately 20 amphibious ships. CE commanded by a Brigadier General.





<b>MEF</b>	Marine Expeditionary Force. Active Marine forces are organized into three MEFs, one in the Atlantic Command and two in the Pacific Command. Largest and most powerful of MAGTFs, the CE is commanded by a Major General or Lieutenant General.
<b>MEU</b>	Marine Expeditionary Unit. Smallest air-ground task force, embarked aboard 3-5 amphibious ships, CE commanded by a Col.
<b>MEU-SOC</b>	Marine Expeditionary Unit - Special Operations Capable. The Marines do not have a unique Special Operations Command like the other Services, but use regular force Marines who are specially trained in special operations.
<b>MIIDS IDB</b>	Military Intelligence Integrated Data System/Integrated Data Base mainframe computer.
<b>MIPS</b>	MAGTF Integrated Personnel System
<b>MSE</b>	Mobile Subscriber Equipment. The new ACUS equipment that will allow for circuit switch or packet switch subscribers. Provides means for communicating in both division and corps areas of operation.
<b>MT WHITNEY</b>	Second Fleet command ship
<b>MTACCS</b>	Marine Tactical Command and Control System
<b>MTS</b>	Man-Transportable SOCRATES
<b>M W</b>	MicroWave (Line of Sight LOS)
<b>MWSG</b>	Marine Wing Support Group
<b>MWSS</b>	Marine Wing Support Squadron
<b>NAF</b>	Numbered Air Forces
<b>NAVMACS</b>	Navy Modular Automated Communications System
<b>NAVMACS II</b>	Navy Modular Automated Communications System, II.
<b>NAVSPACECOM</b>	Naval Space Command
<b>NAVSPECWARCOM</b>	Naval Special Warfare Command; the Navy component of SOCOM.
<b>NCA</b>	National Command Authority
<b>NCC</b>	Network Control Center, for the STACCS WAN
<b>NCTAMS</b>	Naval Computer and Telecommunications Area Master Station
<b>NDS</b>	National Photographic Interpretation Center Data System
<b>NEF</b>	Naval Expeditionary Force



<b>NET BUILDER</b>	A router between networks
<b>NIPS</b>	NTCS-A Intelligence Processing Services
<b>NMCC</b>	National Military Command Center
<b>NOPF</b>	Naval Oceanographic Processing Facility
<b>NSA</b>	National Security Agency
<b>NSWC</b>	Naval Special Warfare Command
<b>NSWG2</b>	Naval Special Warfare Group, 2
<b>NTCS-A</b>	Navy Tactical Command System Afloat. Integrates contact and threat warning data from external sources with data from the afloat sources and sensors. Supports tactical planning and direction of a battle group electronic warfare assets and C3 countermeasures assets. Supports general battle management functions of senior commanders. Integrated into JMCIS.
<b>NTCSS</b>	Naval Tactical Command Support System
<b>NWIS</b>	(improper acronym; see NWSS)
<b>NWOC</b>	Naval Western Oceanographic Center. Located at Pearl Harbor. There is an Eastern Center located at Norfolk.
<b>NWSS</b>	Navy WWMCCS Standardization System. Navy used this system to interface to the Joint WWMCCS system; this functionality is being integrated into JMCIS.
<b>OBU/OED</b>	Ocean Surveillance Information System (OSIS) Baseline Upgrade/OSIS Evolutionary Development
<b>OC</b>	Operations Center
<b>OCAC</b>	Operations Control and Analysis Center
<b>OPTEVFOR</b>	Operations Test and Evaluation Force; Navy command that tests and evaluates readiness.
<b>OSCC</b>	Operational Systems Control Center
<b>OSS</b>	Operations Support System was the shore based command and control system used to support Fleet Command Centers; integrated into JMCIS.
<b>OTCIXS</b>	Officer in Tactical Command Information eXchange Subsystem
<b>PACAF</b>	US Air Forces, Pacific
<b>PACOM</b>	Pacific Command



<b>PC</b>	Personal Computer
<b>PC LIMS</b>	Personal Computer on LIMS
<b>PLRS</b>	Position Location Reporting System
<b>PSYOP/CA</b>	Psychological Operations and Civil Affairs
<b>RAAP</b>	Rapid Application of Air Power (Targeting)
<b>RAOC</b>	Rear Area Operations Center
<b>RAWS</b>	Relocatable Army Processors for Intelligence Data - Europe Analyst Workstation
<b>RECON</b>	Reconnaissance
<b>Reuters</b>	International news service
<b>Rivet Joint</b>	Reconnaissance aircraft designated E-135. Receives and processes long range SIGINT in support of ELINT and COMINT missions. Capability to display and analyze data, including identification, location, and parametric. Supports updating potential threat electronic order of battle (EOOB), analyses of theaters current electronic signatures, and provides indications and warnings of threat activity.
<b>ROK PRES/MOD</b>	Republic of Korea President or Minister of Defense; analogous to our NCA.
<b>ROK-US MILCOM</b>	Republic of Korea - United States Military Committee.
<b>RRC</b>	Regional Reporting Center
<b>SACLANT</b>	Supreme Allied Command, Atlantic
<b>SARC</b>	Surveillance & Reconnaissance Center
<b>SATCOM</b>	Satellite communications
<b>SCAMPI</b>	USSOCOM C3 transmission system (It is not an acronym.) A closed community of communications nodes for C3I between USSOCOM and its components and other government agencies. Uses leased fiber optic and T1 lines.
<b>SCCIS</b>	SOCEUR Command and Control Information System
<b>SEALs</b>	Sea Air Land units. Navy SOF operational element.
<b>SHF</b>	Super High Frequency
<b>SIDS</b>	Secondary Imagery Dissemination System



<b>SINCGARS</b>	Single Channel Ground and Airborne Radio System. A family of VHF combat net radios that provides the primary means of command and control for Infantry, Armor, and Artillery units.
<b>SMRS</b>	Special Mission Radio System. A global SOF network replacing the JASORS program that was cancelled. Initial development will be for HF radios, HF radio base stations, and hand held digital message entry/control devices.
<b>SMTP Gateway</b>	Simple Mail Transfer Protocol Gateway; computer that allows for receipt of e-mail from outside systems.
<b>SOC-Korea</b>	Special Operations Command-Korea is the only theater where U.S. and Host nation SOF are integrated. Located near Seoul, it is a standing joint task force controlled by the Commander, U.S. Forces Korea
<b>SOCC</b>	Submarine Operations Command Center
<b>SOCCENT</b>	Special Operations Command, Central Command is collocated with USSOCOM and USCENTCOM at MacDill AFB, FL.
<b>SOCEUR</b>	Special Operations Command Europe. SOCEUR is unique in that it is a component and a staff element. SOCEUR is larger than SOCPAC or SOCLANT.
<b>SOCLANT</b>	Special Operations Command, Atlantic Command; located at Norfolk Naval Air Station, Norfolk, VA, it is the smallest of the theater SOC's.
<b>SOCOM</b>	Special Operations Command is one of the DoD Unified Commands.
<b>SOCPAC</b>	Special Operations Command, Pacific Command; located at Camp Smith, HI and it has the largest area of responsibility.
<b>SOCRATES</b>	Special Operations Command Research, Analysis and Threat Evaluation System. Provides automated intelligence and imagery support to USSOCOM and USCENTCOM, and projected for other units.
<b>SOC SOUTH</b>	Special Operations Command, Southern Command is located at Albrook Air Force Station, Panama.
<b>SOF</b>	Special Operations Forces
<b>SOF IV</b>	Special Operations Forces Intelligence Vehicle
<b>SOFPARS</b>	Special Operations Forces Planning and Rehearsal System. Computer based planning and rehearsal system for air, ground, and maritime elements.
<b>SOMS</b>	Special Operations Media System. A series of multiband/multichannel radio and television transmitters arranged in modular configurations. Capable of broadcasting PSYOPS products to worldwide target audiences.
<b>SORFMS</b>	Special Operations Radio Frequency Management System. A small stand alone system for real-time, HF transmission, propagation, and forecasting.



<b>SOTVS</b>	Special Operations Tactical Video System. Imagery system (hand held still or camcorder).
<b>SRIG</b>	Surveillance, Reconnaissance & Intelligence Group
<b>SSBN</b>	Ballistic Missile Nuclear Powered Submarine
<b>SSN</b>	Attack Submarine (Nuclear Powered)
<b>STACCS</b>	Standard Theater Army Command Control System. The theater level data processing support system initially developed by the Army European Command. Being integrated into AGCCS.
<b>STATE</b>	US State Department
<b>STOMPS</b>	Standalone Operational Message Processing System (AUTODIN access)
<b>STT</b>	Special Tactics Team. Air Force SOF operational element.
<b>STU-III + HNTELE</b>	Secure Telephone Unit III working in conjunction with a Host Nation Telephone system. The STU-III is a low cost wide band, two-wire secure telephone with up to 9600-baud data-rate capabilities.
<b>SUBLANT</b>	Submarine Forces, Atlantic
<b>SURFLANT</b>	Surface Fleet, Atlantic
<b>T1</b>	High capacity telecommunication line
<b>TAC</b>	(1) Tactical Advanced Computer. Fourth version of this Navy workstation buy should be available by the end of FY94.  (2) Tactical Command Post
<b>TACC</b>	Tactical Air Command Center. Provides the tactical air commander with communications, system processing, data correlation and displays needed to support planning and directing of overall air support. The systems and components that make up the TACC will be replaced by the Advanced TACC (ATACC) beginning in FY95.
<b>TAC COMMS</b>	Tactical Communications
<b>TACP</b>	Tactical Air Control Party. Mobile ground controller for air support for Army. Subordinate to ASOC.
<b>TACS</b>	Theater Air Control System
<b>TADIL</b>	Tactical Digital Information Links. Bit oriented real-time information distribution for real-time command and control. The USN has: Link 4A (air control, maps to TADIL C standard), Link 11 (track data and force orders, TADIL A standard), and Link 16 (jam resistant track data and



force orders, TADIL J standard). Both TADIL A and TADIL J provide for multiservice exchange of information.

<b>TADIXS</b>	Tactical Data Information Exchange Systems. Character oriented messages system for command and control information, such as cruise missile mission updates. Two systems in use: TADIXS A, TADIXS B.
<b>TAMPS</b>	Tactical Air Mission Planning System. Mission planning and route analyzer in support of power projection. Includes such capabilities as weapons loadout monitoring, radar prediction, etc.
<b>TAOC</b>	Tactical Air Operations Center (Marines) is used for exercising command and control of air operations.
<b>TAOM</b>	Tactical Air Operations Module; manages the air traffic control, providing real-time C2 of all MAGTF air and surface-to-air missile assets.
<b>TARGET</b>	Theater-level Analysis, Replanning and Global Execution Toolbox
<b>TBM</b>	Theater Battle Management; Air Force's unifying C4I concept
<b>TCAC</b>	Technical Control and Analysis Center
<b>TCCS</b>	Theater Command and Control System. The major C2 system supporting PACOM and staff, and in use at all the components. Network extended off of Hawaii.
<b>TCO</b>	Tactical Combat Operations is the focal point of the MAGTF C2 network. Provides commander, staff, and subordinates automation to receive, fuse, display, and disseminate C2 information, for both planning and direction.
<b>TEAMS</b>	Tactical EA-6B Mission Support System. Provides mission planning for airborne electronic countermeasures; accepts postmission information for correlation and display. Interfaces to TAMPS.
<b>TENOC</b>	Theater Network Operations Center
<b>TOC</b>	Tactical Operations Center (Army)
<b>TPC</b>	Target Planning Center
<b>TPCS</b>	Team Portable COMINT System
<b>TRE</b>	Tactical Receive Equipment
<b>TSC</b>	Tactical Support Center (The former AntiSubmarine Warfare Operations Center)
<b>TWCS</b>	Tomahawk Weapon Control System. TWCS is part of the Tomahawk Weapon System. Provides processing and control of targeting, engagement planning and launch control of the Tomahawk missile. To accomplish this TWCS also must keep a theater ocean surveillance data base and correlates contact reports from several systems. Interfaces to C&D on Aegis Cruisers.



<b>U2-R</b>	Reconnaissance aircraft. Collects intelligence data processed by the CARS/JSIPS system.
<b>UCCS</b>	European Command and Control System. This is the major planning and analysis support system for the EUCOM staffs.
<b>UHF</b>	Ultra-High Frequency
<b>USA</b>	United States Army
<b>USACOM</b>	US Atlantic Command
<b>USAF</b>	United States Air Force
<b>USAFE</b>	US Air Forces Europe. Three Numbered Air Forces are stationed in Europe.
<b>USAFSOF, USNSOF, USASOF</b>	Special Operation Forces of the services
<b>USAREUR</b>	US Army Europe. The Army has extensive forces in Europe, and thus significant C2, which directly impacts the C2 of USECOM.
<b>USASOC</b>	U.S. Army Special Operations Command operates as both a USSOCOM service component command and as an Army Major Command.
<b>USCENTCOM</b>	US Central Command
<b>USCINC</b>	United States Commander in Chief
<b>USEUCOM</b>	US European Command
<b>USFJ</b>	US Forces, Japan
<b>USFK</b>	US Forces, Korea
<b>USN</b>	United States Navy
<b>USPACOM</b>	US Pacific Command
<b>USSOCOM</b>	US Special Operations Command. Located at MacDill Air Force Base in Tampa, Florida.
<b>USSOUTHCOM</b>	US Southern Command
<b>VHF</b>	Very High Frequency
<b>VIX</b>	Video Information Exchange System
<b>VTC</b>	Video Teleconferencing; there exists a video conferencing capability between ACC and CINUSACOM; the capability is being expanded to the other components.



<b>W/S</b>	WorkStation
<b>WARRIOR</b>	An Army intelligence system (not an acronym)
<b>WCCS</b>	Wing Command and Control System provides decision support to Air Force wings at the unit level.
<b>WIN</b>	WWMCCS Interconnection Network
<b>WOC</b>	Wing Operations Center. The implementor of ATOs, Force readiness, detailed mission planning, execution of orders, and reporting of status.
<b>WWMCCS</b>	World Wide Military Command and Control System is the current joint command and control system to be replaced by the Global Command and Control System (GCCS).



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